

**INTERSERVICE TRAINING REVIEW ORGANIZATION  
PROCEDURES MANUAL**

**Chapter 9**

**COST ANALYSIS PROCEDURES AND GUIDELINES**

**Note: The procedures in this chapter are established and approved by the Cost Analysis Committee for use by that committee only.**

1. **Cost Analysis Committee.** The Mission of the Cost Analysis Committee is to provide cost support to the Detailed Analysis Group (DAG). Members of this committee are:

Air Force (Chairperson)	HQ AETC/FMAT 1851 First Street East Suite 1 Randolph AFB, TX 78150-4315 DSN 487-3550/3565
Army—Non-Medical	HQ TRADOC ATTN: ATRM-P 5 North Gate Road, Bldg 5F Fort Monroe, VA 23651-1048 DSN 680-2341
Army—Medical	AMEDDC&S (MCCS-R) 2250 Stanley Road Fort Sam Houston, TX 78234 DSN 471-7348/6504
Navy—Non-Medical	Chief of Naval Education and Training (ETE42) 250 Dallas Street Pensacola, FL 32508-5100 DSN 922-4195
Navy—Medical	BUMED-51 2300 E Street NW Washington, DC 20372 DSN 762-3818
Marine Corps	CG TECOM C464 2008 Elliot Road Quantico, VA 22134-5029 DSN 278-0136

2. **Service Cost Analyst Instructions.** The following paragraphs will assist the analyst in preparing and documenting the ITRO Cost Analysis (to be completed by Service Cost Analyst).

a. **Background.** The ITRO EXCEL model used in cost analysis simplifies the complex process of analyzing the myriad of cost impacts in the decision making process. The model uses an incremental/decremental cost approach. The model defines the current training costs, the baseline, as the costs associated with the future production level just before the ITRO driven change. Using the model, we measure the additional costs or savings for the proposed training and compute an incremental/decremental cost impact. Prior to this model, all data was manually calculated and compiled on worksheets. The model is well designed and easy to operate. There are, however, some points that should be considered when completing the sheets. This section will attempt to bring these into focus and, hopefully, remove any confusion in completing the cost data sheet. A partial example of a cost analysis report and a completed cost data sheet as well as enclosures and exhibits are illustrated in Figures 9-1 through Figure 9-11. The report does not include an equipment purchase list and only includes Army sheets for one option. A complete report would include sheets for all Services and all options. You may want to make reference to it while going through the process.

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b. Step-by-Step Process

(1) Before beginning a cost data sheet, you must determine whether you are host or non-host for the option under consideration. Host sheets provide for incoming population changes and non-host sheets recognize departing population changes. We will discuss the steps for a host sheet and make comments for non-host exceptions.

(2) Source data for the cost data sheet comes from several documents. The Cost Analysis Data Requirements Form or Twelve Question Form (ITRO Form 7) submitted by the Service representatives provides most of the data. Additional data comes from Course Data (Figure 9-8), Student Travel (Figure 9-9), Implementation and Surveillance (Figure 9-10), and Travel and Travel Information (Figure 9-11), Equipment Lists for Transfer, Equipment Purchase Lists, Transportation Cost Letters, and other miscellaneous documentation exhibits as required.

(3) The following is a step-by-step journey through the cost data sheet. When you open the cost data sheet (either Host or Non-host Excel file), you will notice several worksheets whose contents are indicated by the names on the tabs at the bottom of each. You will initially be working with the "Draft Cost Sheet". While running the model, you will notice all cells requiring input are indicated in blue font on the computer screen. Cells whose font is not blue indicate that the information is either imported from another worksheet or contains an automatic calculation. These cells have been protected to prevent accidental over-typing. We will discuss the steps for a host sheet and make comments for non-host exceptions.

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**PART I - COURSE DATA**

*Note: Paragraph numbers below refer to the numbering used in the cost model. Reference to "enclosures" and "exhibits" refers to enclosures and exhibits in the cost model itself, not this manual.*

*Begin by editing cell E2 to enter the option number and cell I2 to enter the date corresponding to the last day of the study.*

1. *No entry required.*
2. *Enter the study title. Also enter the proposed action, e.g., "Consolidate Army and Air Force Communications Training at Fort Gordon". Paragraph 2 also references Enclosure 1, which contains the course data (see Figure 9-8). Before proceeding, you should complete Enclosure 1 using the information provided in the Twelve Question Form or by the subject matter expert. To access Enclosure 1, click on the worksheet scroll bar at the bottom left of the screen until the Enclosure 1 worksheet comes into view. Click on the worksheet tab to select it and then enter the required course data. Note: Student input is also known as throughput. It is not average daily student load (ADSL). It is the annual number of personnel entering the classroom. Also, to compensate for the lost administrative time when converting from Service peculiar training week computation to ITRO, add 0.1 weeks administrative time for each training week to a maximum of 0.4 weeks (i.e., a 3-week course will be increased by 0.3). Army and Marines will add administrative time only to the proposed course length except for cases where the course is already consolidated in which case it will be added to the baseline as well as the proposed course length. Air Force and Navy will add the value to the baseline and proposed course lengths. The cost analyst should ensure the manpower analyst has included this addition in the course lengths and student load calculations provided for the costing effort. Note that consolidated courses and collocated courses are entered on different sections of the Course Data worksheet.*
3. *Enter current location of training (i.e., the site of the training in the study target year should ITRO not happen).*
4. *Enter proposed location of training.*
5. *No entry required, but ensure the Inflation Factors Worksheet is updated with the most current inflation factors. The Army's cost analyst updates these factors yearly and provides these to other Services' cost analysts. For information, inflation factors are available on the web at [www.dtic.mil/comptroller](http://www.dtic.mil/comptroller). This gets you into the DOD Comptroller homepage where you should select "Defense Budget", and at the next page select "National Defense Budget for FY XXXX (Green Book)". The factors are in Table 5-9 of the Green Book. Once*

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*the Inflation Factors Worksheet is completed, the consolidation year in the cost data sheet is imported automatically.*

6. No entry required.
7. No entry required. Values are pulled directly from Enclosure 1 (Figure 9-8).
8. No entry required. Values are pulled directly from Enclosure 1 (Figure 9-8).
9. Input percent PCS/TDY enroute students from the 12 Question Form in 9a, i.e., 10 percent entered as 10. The TDY and return percentage is automatically computed in 9b. PCS/TDY en route percentage represents the percentage of annual trainees coming directly out of basic training.
10. Enter average (modal) student grade from the 12 Question Form. This is the average grade that will be used on line 17a(1) to calculate increased/decreased student pay resulting from a change in ADSL between the current and proposed training course.
11. No entry required. Reserved for future use.

### PART II - INCREMENTAL COST DATA

12. Permanent Party Delta - Incremental manpower data is taken from the manpower worksheets. It is the difference (delta) between the "proposed" and "current" lines on the sheet and is provided by the manpower analyst. These incremental changes are only for the Service preparing the sheet. Other Service changes are reflected on their sheets. Enter the military/civilian incremental changes for service preparing the sheet in subparagraphs a, b, c, and d.
  - a. Avg Salary – This section relates directly to 12a-d. Enter the average composite salary for military and civilian personnel changes identified on the manpower sheets. For BOS personnel (line c), use the composite salary rate for an E-5/GS-5. OSD Military Composite Standard Pay and Reimbursement Rates are available on the web at [www.dtic.mil/comptroller/rates](http://www.dtic.mil/comptroller/rates). Civilian composite rates can be calculated using the civilian locality pay table for the area and applying the fringe benefit factor found at Tab D of the DTIC web site.
  - b. BOS NP Var cost Factor - Factor provided by service. It represents costs in BOS other than personnel to support one man-year. When entered, the spreadsheet automatically multiplies the factor by the population change to produce the increase/decrease in non-personnel BOS funding resulting from the population change. For the host Service, the cost is derived by taking the total incoming population from other Services, adding the incremental population and student load changes for the host Service, and multiplying by the BOS NP Var Factor. For the non-host Service, taking the total outgoing personnel times the BOS NP Var Factor derives the cost.
  - c. Msn NP Var Cost Factor - Factor provided by Service. It represents direct mission costs for one student load.
  - d. Personnel Cost – Automatically calculated, no entry required. This section takes the product of the permanent party deltas (entered in 12a-d) and the average salaries to give the incremental cost or savings for manpower.
  - e. Incoming/Departing Personnel - For non-host sheets, use the "current" line from your Service's manpower worksheets as departing personnel. It will have changes for overhead, instructors, and detachment personnel. For host sheets, use the "total proposed" line from the other Services' manpower worksheets as incoming personnel. Your Service counterparts provide incoming personnel by exchanging BOS Population Change sheets (Figure 9-12). Base population change sheets are prepared by Service cost analysts transferring training to a host Service. This section of the cost data sheet shows by Service the total "proposed" personnel relocating to the host base as a result of the training consolidation. The top section is fed by the matrix below it, which is completed to show the positions by Service and classification. Consolidated and collocated student loads have to be entered separately since mission cost for collocated student loads is not transferred to the host.
13. Non-Personnel O&M Cost/(Savings) – Automatically calculated, no input required. Computation varies whether working with a host or non-host change. For mission costs on host sheets for all Services, the model takes the incoming consolidated student load plus the

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host student load change times the school mission factor. For mission costs on non-host sheets for each Service, the model takes the departing consolidated student load times the school mission factor to compute the recurring cost savings. For BOS costs on non-host sheets for each Service, the model takes the total departing personnel times the BOS factor. For BOS costs on host sheets for all Services *except* Army, the model takes the total incoming personnel plus the host incremental personnel and student load changes minus the BOS incremental personnel change times the BOS factor. The BOS incremental personnel change is removed because non-Army BOS factors are mission population driven. Army sheets do not make this adjustment since the Army factor is total population driven.

14. Equipment Cost/(Savings) - Data is taken from the twelve-question sheet (ITRO Form 7). All entries must be documented. For instance, equipment purchase must have an exhibit attached showing items and quantity with price, transfer costs must have shipping list and cost estimate from the Service's transportation office or other source, and maintenance cost must show source of contractual information. We must be careful with mission costs. If it is organic (in house) it should be captured in the manpower analysis. Discuss with the manpower analyst before adding in any cost. If it is contractual it may already be in the mission cost factor. Cost analyst should get a breakout of elements in their mission factor to determine if contract maintenance has been included. Rules for who pays are contained in this procedures manual. Generally for equipment used in consolidated courses, the cost is prorated to the Services based on ADSL unless the equipment is for a Service unique track. Participating Service pays for collocated and consolidated Service unique requirement. Participating Service ships their available equipment at their cost regardless of consolidated or collocated status.

15. Facility Cost/(Savings) - This information is provided by the facilities analysts.

16. Travel Cost/(Savings)

a. The student travel costs are imported from Exhibit 1 (Figure 9-9). Access Exhibit 1 by scrolling through the worksheets until you can select the correct sheet. The number of students is automatically imported from Enclosure 1. You must update or verify the students' originating locations and, using the Twelve Question Form, enter the percentage of students from each listed location. Beginning in cell L31, enter the airfare for the before ITRO city pairs listed. Do the same for the after ITRO city pairs beginning in cell L48. The spreadsheet then calculates the before ITRO travel costs, after ITRO travel costs, and the difference between the two. These costs are automatically transferred to the cost data sheet. In most cases, we compute student travel only for pipeline students meaning we cost travel from basic training to initial skills training. In some cases when the information is available, the analyst may want to capture the incremental cost of the difference in travel cost for TDY students. However, if all Service analysts do not have access to TDY point-of-departure information, then we do not normally include any TDY cost information because it will unbalance the results of the cost analysis. However, if there is a significant difference in lodging and per diem costs, you may build an exhibit to recognize this difference while disregarding any difference in travel costs. When a course length, due to an interservice action, becomes 20 weeks or more and it becomes a PCS, we capture the full PCS cost as an incremental increase in MILPERS and the previous full TDY per diem cost as a cost savings in O&M.

b. Exhibit 2, (Figure 9-10) documents staff implementation and surveillance travel. We take the basic trip data from the Twelve Question Form ITRO Form 7, Appendix B. Note: The formula used to compute the travel cost (Cell I18) assumes that one vehicle will be rented for 4 or less travelers from the same organization. It allows for two vehicles when 5 or more travelers are involved. If this is incorrect, you must adjust the formula to reflect your actual situation. Examples of exhibits 1 and 2 are provided in this manual in Figures 9-9 and 9-10. In addition, prior to completing exhibits 1 and 2, the host Service will have to complete Exhibit 3 (Figure 9-11) which details the scheduled airline ticket office airfares for proposed student travel, and for staff surveillance and implementation travel routes. The host Service analyst will provide this information to the other cost analysts.

c. PCS costs are also included in this paragraph. In the upper right section of page 2 of the cost data sheet we record the instructor/staff personnel moving. To determine this, take

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*the higher of the proposed or baseline from the manpower worksheets. This is an arbitrary assumption but conservatively reflects the worst case scenario. Each Service will enter their unique PCS rates in this section. The model computes incremental moves as 67 percent for military and 75 percent for civilian. The assumption is that military and civilians normally move once every 3 and 4 years respectively. Total cost are automatically calculated and placed in the appropriate cells.*

17. Other Cost/(Savings) - *This section documents cost/(savings) not specifically identified in other areas. The impact of student course length change is computed by multiplying the student load change computed on the previous page by the pay rate for that average student grade from the military composite pay tables that you must enter in cell K96. Training of instructors is included as an incremental cost when it is strictly driven by the ITRO decision. Curriculum development is included when it is excluded in the manpower standard. It is seldom used. Civilian reduction-in-force (RIF) costs may be included when determinable. It too is seldom included.*

18. Cost Avoidances - *To understand cost avoidances, the cost analyst must also understand the concept of sunk costs.*

a. Sunk Costs. *Careful consideration must be given to determining which expenditures should be classified as sunk costs. Sunk costs have already been incurred as the result of past decisions. Sunk costs have been irrevocably committed to a project or program and, therefore, are beyond the reach of the decision maker. By definition, they have no bearing on or relevance to future decisions. An example given in a Service directive on economic analysis is as follows. If \$1M has been spent in research and development leading to item A, with competition of the new product requiring the investment of an additional \$500K, and item B is proposed as an alternative that will require an investment of \$750K, the relevant cost comparison is \$500K versus \$750K, not \$1.5M versus \$750K.*

b. Cost Avoidance. *Guidelines for treatment of cost avoidances must be carefully and rigorously applied. A cost avoidance is realized when a cost that would be incurred in the normal course of events is avoided by the taking of a management action (usually facilities or equipment procurements). The following criteria should be applied:*

(1) *The item must be programmed at the Service level and not merely a wish list item.*

(2) *The avoidance of cost must be clearly linked to the management action.*

(3) *The resource in question must not meet the criteria for a sunk cost. Even though an item is programmed, if it is "within the reach of the decision maker" and therefore can be avoided, it is not a sunk cost and can be considered for treatment as avoidance. As an example, assume training at Ft Leonard Wood is being considered for consolidation at Lackland AFB. The Army has programmed a facility project for the current training in the amount of \$8.5M. The project has not been placed out for bid and no contract award has been made. It is still possible to kill the proposed solicitation for bids. In the option to move to Lackland, the Army would record a cost avoidance of \$8.5M. Conversely, had the project already been awarded it would have been considered a sunk cost.*

19. Comments/Footnotes *This section gives an opportunity to make reference to unusual items or comment on data sources not covered in the exhibits or enclosures. For instance, we can use this section to identify the different grades and numbers of personnel in the manpower section, uninflated values for BOS and mission factors, etc. It is not necessary to footnote items already documented in other parts of the cost analysis.*

20. Name and Telephone Number of Project Officer(s) Preparing Data List *those individuals responsible for providing and verifying data used in the four categories of Course, Manpower, Facilities, and Cost.*

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