

CHANGE REQUEST COVER SHEET

Change Request Number: 10-14

Date Received: 1/27/2010

Title: Investment Analysis

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Policy OR Guidance: Policy

Section/Text Location Affected: AMS Policy Section 2.4

Summary of Change: Incorporates Initial Investment Analysis, Final Investment Analysis, Initial Investment Decision (IID) and Final Investment Decision (FID) into AMS.

Reason for Change: This change incorporates the AEB Acquisition Categories (ACAT) into Investment Analysis policy; defines the key activities and major products of Initial Investment Decision (IID) and Final Investment Decision (FID). Also, it incorporates AFC₃₀₀ into the review process for ITEB programs.

Development, Review, and/or Concurrence: Acquisition Executive Board

Target Audience: Acquisition workforce

Potential Links within FAST for the

Change: http://fasteditapp.faa.gov/ams/do_action?do_action=LinkSection&contentUID=4§ionNumber=2.4

Briefing Planned: No

ASAG Responsibilities: None

Potential Links within FAST for the

Change: http://fasteditapp.faa.gov/ams/do_action?do_action=LinkSection&contentUID=4§ionNumber=2.4

Links for New/Modified Forms (or) Documents (LINK 1)

Links for New/Modified Forms (or) Documents (LINK 2)

Links for New/Modified Forms (or) Documents (LINK 3)

SECTIONS REMOVED:

Acquisition Management Policy:
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Section 2.4.1.2 : Outputs and Products [\[Old Content\]](#)
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SECTIONS EDITED:

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SECTIONS REMOVED:

Acquisition Management Policy:
Section 2.4.1.4 : Who Approves? .

The Vice President or Director of the implementing service organization approves the initial business case analysis report. The Vice Presidents (ATO) or Directors (non-ATO) of the service organization executing during solution implementation and the operating service organization approve the plan for final investment analysis. Within the ATO, the Vice Presidents of the service organization executing during solution implementation and the

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operating service organization approve updated requirements in the program requirements document. In the other lines of business, the second-level executive of the executing service organization approves the updated program requirements document. The Chief Architect for the NAS enterprise architecture approves NAS architecture products and amendments. The Chief Information Officer approves mission support, administrative, and any other architecture products and amendments delegated to the ITEB by the JRC. The Vice President (ATO) or Director (non-ATO) of the operating service organization may implement a nonmaterial solution that emerges during investment analysis when it can be fully funded within existing approved resources and upon concurrence by the appropriate enterprise architecture control board. The Acquisition Executive, Chief Financial Officer, Chief Operating Officer (ATO) or the Associate or Assistant Administrator (non-ATO) of the line of business, and the ATO Senior Vice President for Finance approve the preliminary Exhibit 300 for designated programs. The Acquisition Executive approves tailoring of the investment analysis process.

Acquisition Management Policy:

Section 2.4.1.3 : Who Does It? .

Investment analysis teams consisting of authorized representatives from all key stakeholder organizations perform initial investment analysis.

The ATO Finance business case analysis organization guides and advises service organizations in the conduct of initial investment analysis, reviews and validates the business cases developed by service organizations, and confirms the business case analysis report is complete and consistent with FAA standards. This organization also provides standards, guidance, training, and consulting to service organizations to ensure consistency in the conduct of investment analyses.

The implementing service organization leads the investment analysis team using standard FAA investment analysis tools and guidance. It also assesses technology, generates cost and schedule estimates for alternative solutions, and determines what performance and supportability can be achieved within these estimates. The conduct of investment analyses in support of baseline change requests is negotiated between the service organization and the ATO Finance business case analysis organization.

The operating service organization participates on the investment analysis team. Its primary responsibilities are to ensure sound lifecycle management planning for operational support during in-service management and to assist the refinement of requirements in the program requirements document.

The capital investment team assesses the budget impact of each alternative and makes offset recommendations.

The AIO Value Management Office independently reviews and scores the preliminary Exhibit 300 for designated programs.

Stakeholders participate as authorized team members throughout investment analysis, providing perspective and recommendations on behalf of their organizations.

Acquisition Management Policy:

Section 2.4.1.2 : Outputs and Products .

The principal output of initial investment analysis is information and data that enable the

investment decision authority to select the alternative that best meets required performance, is affordable over the projected lifecycle, and offers greatest value and benefit to the FAA and its customers. A second output is the plan for final investment analysis. The following are required products of initial investment analysis that enable and record these primary outputs:

- Updated program requirements document;
- Business case analysis report;
- Preliminary Exhibit 300 and scoring results for designated programs;
- Initial implementation strategy and planning document;
- Updated enterprise architecture products and amendments;
- Plan for final investment analysis

Acquisition Management Policy:

Section 2.4.1.1 : What Must Be Done .

- **Form investment analysis team.** The service organization establishes the investment analysis team. The team typically has operations analysts and requirements specialists from the organization with the need; acquisition, engineering, and market specialists from the implementing service organization; business case analysis staff specialists with skills in such disciplines as risk assessment, cost and schedule estimating, and benefits estimation; and technical specialists for whatever support is needed. Specialists for such critical disciplines as safety, security, integrated logistics, and human factors must be members of every investment analysis team. Regulatory specialists should be members when potential solutions impact aircraft or the airspace or involve hazardous materials, emergency operations, or the physical security of facilities, assets, and personnel. Information systems security is a critical and complex discipline that impacts almost every investment program.
- **Define business case.** The investment analysis team defines what information and data must be collected and begins construction of the business case analysis report. Factors that shape the business case include FAA strategic and performance goals, affordability, reduction in operational costs, and compatibility with the enterprise architecture. The integrated logistics management team provides business case information for logistics requirements.
- **Determine market capability.** The investment analysis team analyzes the marketplace to determine the capability, state of development, risk, and cost of potential solutions to mission need. It uses results to refine requirements and finalize alternatives. Operational or factory capability demonstration of potential solutions is strongly encouraged to verify suitability for meeting service need.
- **Analyze alternatives.** The investment analysis team thoroughly evaluates the alternatives approved at the investment analysis readiness decision. This involves systems engineering and multiple trade studies to determine which alternative best satisfies mission need and core agency requirements within acceptable cost and risk. Effort is focused on developing definitive information for each alternative for each standard FAA investment decision criterion (benefits, lifecycle cost, benefit/cost ratio, alignment with enterprise architecture, contribution to FAA strategic and performance goals, and risk). The investment analysis team uses the standard lifecycle work breakdown structure and other applicable standards when developing cost and schedule estimates. Specialists for critical disciplines such as safety, security, integrated logistics, and human factors evaluate each alternative for their specialty. Results are recorded in the business case analysis report.

- **Assess budget impact.** The investment analysis team forwards estimates of lifecycle cost for each alternative to the capital investment team. This team assesses the budget impact and relative contribution to agency goals of each alternative against other ongoing and proposed investment programs in the FAA's financial baseline. When an alternative solution cannot be funded within the financial baseline, the capital investment team may propose offsets from lower priority programs. The budget impact assessment shapes subsequent deliberations of the investment analysis team.
- **Update Program Requirements.** The analysis of alternatives may result in the need to modify preliminary requirements to mitigate risk or achieve affordability. Modifications are carefully evaluated to ensure no detriment to safety or essential performance and or service need. Changes are recorded in the updated program requirement document.
- **Develop preliminary Exhibit 300 (designated programs only).** The investment analysis team develops preliminary information for the following sections of the Exhibit 300: alternatives analysis, enterprise architecture, performance goals, and the President's management agenda. The alternatives analysis section describes each alternative and summarizes strengths and weaknesses. The AIO Value Management Office independently scores the four completed sections of the preliminary Exhibit 300. They work iteratively with the investment analysis team to satisfy OMB scoring criteria..
- **Plan for final investment analysis.** The investment analysis team defines the actions, resources, schedules, roles and responsibilities, documentation, and exit criteria for final investment analysis. The plan includes any risk-reduction effort that may be necessary such as modeling, analysis, simulation, or research.
- **Prepare for initial investment decision.** The investment analysis team prepares briefing materials and documentation, and coordinates findings and recommendations with key stakeholders. They also work with the ATO Systems Engineering organization to update products and amendments to the enterprise architecture. The IDA Secretariat ensures completion of all entrance criteria for the initial investment decision.

Acquisition Management Policy: **Section 2.4.3.4 : Who Approves? .**

The Acquisition Executive, Chief Financial Officer, Chief Information Officer, Chief Operating Officer (ATO) or the Associate or Assistant Administrator of the line of business, and the ATO Senior Vice President for Finance sign the Exhibit 300 for designated programs. The investment decision authority approves the acquisition program baseline. Within the ATO, the Vice Presidents of the executing service organization and operating service organization approve the final program requirements document. In the other lines of business, the second-level executive of the executing service organization approve the program requirements document. The Vice President or Director of the executing service organization approves the business case analysis report. Within the ATO, the Senior Vice President for Operations and the Vice President of the executing service organization approve the implementation strategy and planning document. In the other lines of business, the second-level executive of the executing service organization approves the ISPD. For designated programs, the Director, Independent Operational Test and Evaluation, approves the test section. Stakeholder organizations approve specific planning sections per the ISPD template. The Chief Architect for the NAS enterprise architecture approves NAS architecture products and amendments delegated to the ITEB by the JRC.

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Section 2.4.3.3 : Who Does It? .

The investment analysis team plans and conducts final investment analysis, coordinates development of final program requirements and planning documents, updates enterprise architecture products and amendments, prepares the final business case analysis report, and briefs key stakeholders and the investment decision authority members in preparation for the final investment decision.

The service organization leads the investment analysis team, develops integrated program planning, issues solicitation packages and evaluates responses, and conducts whatever analyses, research, modeling, or simulation is necessary to lower risk and finalize requirements.

The ATO Finance business case analysis organization supports the service organization and ensures compliance with FAA investment analysis standards.

Key stakeholders work on and assist the investment analysis team in all aspects of final investment analysis, particularly risk management, information security, human factors, logistics support, and safety. They commit to what each will do to support the investment program throughout solution implementation and in-service management. Commitments are captured in the implementation strategy and planning document.

The capital investment team performs the final budget impact assessment.

The AIO Value Management Office independently reviews and scores the Exhibit 300 for designated programs.

Acquisition Management Policy:

Section 2.4.3.2 : Outputs and Products .

The principal outputs of final investment analysis are final requirements, detailed program planning for the solution selected for implementation, an acquisition program baseline for variance tracking, and an Exhibit 300 for designated programs. The following required products contribute to and record these outputs:

- Final program requirements document;
- Final business case analysis report;
- Implementation strategy and planning document;
- Acquisition program baseline;
- Exhibit 300 and scoring results (designated programs only);
- Updated enterprise architecture products and amendments;
- Tailored in-service review checklist.

Acquisition Management Policy:

Section 2.4.3.1 : What Must Be Done .

- **Identify key planning elements.** The investment analysis team identifies the actions and events necessary to deliver the solution within cost and schedule constraints and achieve projected service value and benefit. Complex investment programs may involve development of systems and equipment, modification or construction of facilities, modification of the physical infrastructure, development of regulations, implementation of new procedures, purchase of real property, site

acquisition and adaptation, and integration with other complex activities and programs. Complex programs may also involve planning and integration for a large number of functional disciplines such as systems engineering, logistics support, test and evaluation, risk management, system safety, human factors, configuration management, quality assurance, environmental factors, and security. If key planning elements are overlooked, resources will not be optimized, cost will grow, and schedule will not be met.

- **Reduce risk and finalize requirements.** The investment analysis team works with the service organization to finalize requirements and plan for major risks that threaten achievement of performance, cost, schedule, and benefit objectives. This includes detailed assessments of safety, security, and human factors, and impact on the enterprise architecture. Resultant risk mitigation resources and strategies are recorded in the implementation strategy and planning document. The final program requirements document contains quantified performance and supportability measures against which solution performance will be assessed during operational testing and post implementation review. Risk mitigation actions are monitored and updated throughout solution implementation.
- **Finalize strategy for implementation and lifecycle support.** The service organization develops a detailed strategy for procuring, implementing, and supporting the solution over its lifecycle. This includes the roles and responsibilities of individuals and organizations critical to program success. This strategy includes the roles and responsibilities of individuals and organizations critical to program success such as safety, human factors, security, and logistics support. The strategy is recorded in the implementation strategy and planning document.
- **Solicit and evaluate offers for prime contract(s).** *A request for offer may be released only after the initial investment decision.* The service team solicits offers and evaluates industry responses to ensure the costs, identified risks, and schedules contained in the acquisition program baseline and planning documents are of sufficient accuracy to procure, implement, deploy, and maintain the intended product or service over its projected service life within baseline values. When logistics support is required, an FAALC proposal for organic support must be evaluated along with those from other service providers. *Contract award is not made until AFTER the final investment decision.*
- **Develop detailed program planning.** The actions and activities necessary to implement the investment program are recorded in the implementation strategy and planning document. This planning is developed using the FAA standard lifecycle work breakdown structure, standard program milestones, and a tailored in-service review checklist. Integrated program planning must be as complete and mature as possible at the time of the final investment decision since program success is crucially dependent on the quality of planning.
- **Finalize the Business Case.** The business case analysis report is updated to reflect anticipated contractor and government costs and schedules based on the offers from industry. Full lifecycle costs, risk, and benefits are recorded in the final business case analysis report. The capital investment team assesses the budget impact of the cost baseline.
- **Finalize Exhibit 300 (designated programs only).** The investment analysis team develops an Exhibit 300 for the segment approved for implementation by the investment decision authority. The AIO Value Management Office independently scores the Exhibit 300 and work iteratively with the investment analysis team to improve the product to a passing score using established OMB criteria.
- **Establish the Acquisition Program Baseline.** The acquisition program baseline establishes the cost, schedule, and performance measures within which the service

- organization is authorized to perform and against which the program will be tracked.
- **Prepare for the final investment decision.** The investment analysis team completes all outputs and products of final investment analysis and coordinates findings and recommendations with key stakeholders. They also work with the ATO Systems Engineering organization to update any necessary products and amendments to the enterprise architecture.

SECTIONS EDITED:

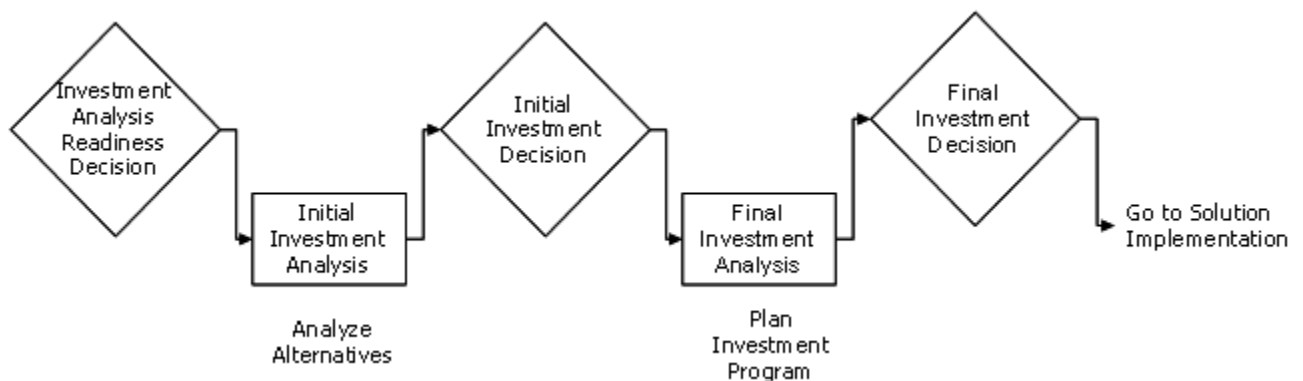
Section 2.4 : Investment Analysis

Old Content: Acquisition Management Policy:

Section 2.4 : Investment Analysis

Figure 2.4-1 illustrates the phases and decision points of investment analysis, which is conducted to ensure FAA's critical needs are satisfied by practical and affordable solutions. Initial investment analysis evaluates alternative solutions to mission need and provides realistic options to the investment decision authority that satisfy FAA strategic and performance goals and achieve best overall value for the FAA and its customers. Final investment analysis develops detailed plans and final requirements for a proposed investment opportunity.

Figure 2.4-1 The Phases and Decision Points of Investment Analysis



Investment analysis is a flexible process that is tailored for the specific analysis to be performed. Tailoring by acquisition category is located [here](#). Tailoring actions may also be approved by the acquisition executive and recorded in the appropriate plan for initial or final investment analysis.

Investment analysis teams conduct major, complex investment analyses. These teams have representatives from the service organization with the mission need, the operating service organization, the ATO Operations Planning organization, the ATO business case analysis organization, and necessary key subject-matter experts from such disciplines as system safety, information security, human factors, test, and integrated logistics. In all cases, organizations conducting investment analysis apply the standard processes and guidelines located in the investment analysis section of the FAST toolset.

Investment analysis is conducted within context of all planned or in-place FAA assets, capabilities, and resources described in the enterprise architecture. Recommendations are consistent with and support FAA strategic and performance goals and the enterprise architecture.

NAS and non-NAS roadmaps in the enterprise architecture establish when an operational capability must be in place. This, in turn, determines when investment analysis should be complete to allow sufficient time to acquire and deploy a suitable solution. The key is to balance the timeliness of the analysis with the rigorous development of quantitative data needed by the investment decision authority to make an informed investment decision.

Cost-effective, operationally suitable commercial or non-developmental solutions are preferred over developmental alternatives when performance and lifecycle support costs are acceptable.

Investment programs are structured into manageable segments approved incrementally by the investment decision authority. Each segment is normally five years or less, and may be divided into technology development or demonstration followed by production and deployment. Production and deployment may also be divided into useful segments to reflect agency funding and operational priorities. Cost, schedule, performance, and benefit projections for each segment must always be deemed beneficial to the FAA and its customers. When additional segments are required to fully implement an investment program, the service organization conducts final investment analysis and brings each sequential segment to the investment decision authority for approval.

If a nonmaterial solution emerges during investment analysis that satisfies the need, can be achieved within approved budgets, and is operationally acceptable to the user, it may be implemented without proceeding further in the lifecycle management process. This determination is made by the Vice President or Director of the service organization with the mission need with the concurrence of the appropriate enterprise architecture control board.

Affordability and accurate cost and schedule estimates are key factors in the decision to approve a new investment program. During initial investment analysis, the capital investment team assesses the budget impact and relative contribution to agency goals of each alternative solution to mission need against other ongoing and proposed investment programs in the FAA's financial baseline. During final investment analysis, they assess the budget impact of the proposed investment program. Results are reported to the investment decision authority and included in the business case analysis report. Appendix A contains the membership of the capital investment team.

The FAA standard lifecycle work breakdown structure shall be used when developing cost and schedule estimates. When available, cost estimates must be based on actual or historical data.

Stakeholder participation is important throughout investment analysis. Stakeholder support for the solution approved at the initial investment decision is key to program success. Coordination with stakeholders is the responsibility of the service organization.

Investment analysis processes conform to external authorities such as those detailed in Appendix E. These authorities include, but are not limited to, the Federal laws, regulations, and guidelines shown. In particular, the information required by OMB Circular A-11, *Preparation, Submission, and Execution of the Budget* is generated, the requirements of OMB Circular A-76, *Performance of Commercial Activities* are considered, and the guidance of OMB Circular A-94, *Guidelines and Discount Rates for Benefit Cost Analysis of Federal Programs* (as annually updated) is followed. OMB Circular A-11 contains Federal policy for planning, budgeting, and managing capital assets. OMB Circular A-94 provides guidelines and values for use in conducting federal investment analyses, including the appropriate selection of analytical technique and decision criterion. It also prescribes the treatment of inflation and discounting. OMB Circular A-76 contains established government policy that requires consideration of commercial sources to supply the products and services the government needs, and performance of inherently governmental activities by government personnel. This includes consideration of government sources as an alternative. The FAA follows the policies of these circulars to the extent that they are consistent with FAA's statutory authority.

New Content: Acquisition Management Policy:
Section 2.4 : Investment Analysis

Investment analysis is a disciplined process that supports sound capital investment decisions. Investment analysis is conducted in the context of the enterprise architecture, as well as FAA strategic goals and objectives. Such plans serve as guides to prioritize ongoing investment analyses. In turn, results help to refine and mature those plans by providing decision-makers with a clear picture of investment opportunities and their risks and value.

NAS and non-NAS roadmaps in the enterprise architecture establish when an operational capability must be in place. This, in turn, determines when investment analysis should be complete to allow sufficient time to acquire and deploy a suitable solution. The key is to balance the timeliness of the analysis with the rigorous development of quantitative data needed by the investment decision authority to make an informed investment decision.

Affordability and accurate cost and schedule estimates are important factors in the decision to approve a new investment program. The results of investment analysis help FAA investment decision authorities determine which potential investments will improve operations across the air transportation system and by how much. The outcome of investment analysis can be used to make individual, portfolio, and prioritization decisions.

If a nonmaterial solution emerges during investment analysis it may be implemented without proceeding further in the lifecycle management process, if it meets the following criteria:

- Satisfies the need;
- Can be achieved within approved budgets; and
- Operationally acceptable to the user.

This determination is made by the Vice President or Director of the service organization with the mission need with the concurrence of the appropriate enterprise architecture control board.

Red Line Content: Acquisition Management Policy:
Section 2.4 : Investment Analysis

Figure 2.4-1 illustrates the phases and decision points of investment analysis, which is conducted to ensure FAA's critical needs are satisfied by practical and affordable solutions. Initial investment analysis evaluates alternative solutions to mission need and provides realistic options to the investment decision authority that satisfy FAA strategic and performance goals and achieve best overall value for the FAA and its customers. Final investment analysis develops detailed plans and final requirements for a proposed investment opportunity. Figure 2.4-1 The Phases and Decision Points of Investment Analysis. Investment analysis is a flexible disciplined process that is tailored for the specific supports analysis to be performed. Tailoring by acquisition category is located here. Tailoring actions may also be approved by the acquisition executive and recorded sound in the appropriate plan for initial or final capital investment analysis decisions. Investment analysis teams conduct major, complex investment analyses. These teams have representatives from the service organization with the is mission conducted need, in the operating service context organization, of the ATO Operations Planning enterprise organization architecture, the as ATO business case analysis well as FAA strategic organization goals and necessary key subject matter experts objectives. Such plans serve as system safety, information security, human guides factors, to test, prioritize and integrated logistics ongoing investment analyses. In all cases turn, organizations conducting investment analysis apply results the standard processes help to refine and guidelines located in the investment analysis section of the FAST toolset. Investment analysis mature is conducted within context of those all planned or in plans by providing decision place FAA assets, capabilities, and resources described in makers the enterprise architecture. Recommendations with are consistent with and a clear picture of support FAA investment strategic opportunities and performance their goals risks and the enterprise architecture value.

NAS and non-NAS roadmaps in the enterprise architecture establish when an operational capability must be in place. This, in turn, determines when investment analysis should be complete to allow sufficient time to acquire and deploy a suitable solution. The key is to balance the timeliness of the analysis with the rigorous development of quantitative data needed by the investment decision authority to make an informed investment decision.

Cost-effective, operationally suitable commercial or non-developmental solutions are preferred over developmental alternatives when performance and lifecycle support costs are acceptable. Investment programs are structured into manageable segments approved incrementally by the investment decision authority. Each segment is normally five years or less, and may be divided into technology development or demonstration followed by production and deployment. Production and deployment may also be divided into useful segments to reflect agency funding and operational priorities. Cost, schedule, performance, and benefit projections for each segment must always be deemed beneficial to the FAA and its customers. When additional segments are required to fully implement an investment program, the service organization conducts final investment analysis and brings each sequential segment to the investment decision authority for approval. If a nonmaterial solution emerges during investment analysis that satisfies the need, can be achieved within approved budgets, and is operationally acceptable to the user, it may be implemented without proceeding further in the

lifecycle management process. This determination is made by the Vice President or Director of the service organization with the mission need with the concurrence of the appropriate enterprise architecture control board. Affordability and accurate cost and schedule estimates are key important factors in the decision to approve a new investment program. During initial investment analysis, the capital investment team assesses the budget impact and relative contribution to agency The goals results of each alternative solution to mission need against other ongoing and proposed investment programs in analysis the help FAA's financial baseline. During final investment analysis, they assess the budget impact decision of the proposed investment authorities determine which potential program investments. Results are reported to will improve operations across the investment air decision authority transportation system and included in the business case by analysis report how much. Appendix A contains the The membership outcome of the capital investment team. The FAA standard lifecycle work breakdown structure analysis shall can be used when developing cost and schedule estimates. to When available make individual, cost estimates must be based on actual portfolio, or historical data and prioritization decisions.

Stakeholder participation is important throughout investment analysis. Stakeholder support If for the a nonmaterial solution approved at the emerges initial during investment decision is key to program success. Coordination with stakeholders is the responsibility of the service organization. Investment analysis processes conform it to external authorities such as those may be implemented without proceeding further detailed in Appendix E. These authorities include, but are not limited to, the Federal lifecycle laws, management regulations process, and guidelines shown. if In it particular, meets the information required by OMB Circular A-11, Preparation, Submission, and following Execution of criteria:

- Satisfies the Budget is generated, need; the requirements of OMB Circular A-76; Performance of Commercial Activities are considered, and the guidance of OMB Circular A-94, Guidelines and
- Discount Rates for Can Benefit Cost Analysis of Federal Programs (as be annually achieved updated) within is approved followed. budgets; OMB Circular A-11 contains Federal policy for planning, budgeting, and managing capital assets. OMB Circular A-94 provides guidelines and values for use in conducting federal investment analyses, including the appropriate selection of analytical technique and decision criterion.
- Operationally It also acceptable prescribes to the treatment of inflation and discounting user. –OMB

This Circular determination A-76 is contains established government policy that requires consideration made by the Vice President or Director of commercial sources to supply the products and services service organization with the government needs, and performance of inherently governmental activities by government personnel. This includes consideration of government sources as an alternative. The mission FAA follows need with the policies concurrence of these circulars to the extent that they are consistent appropriate with enterprise FAA's architecture statutory authority control board.

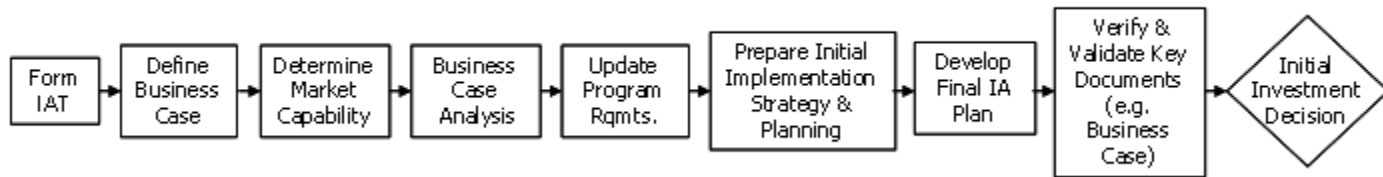
Section 2.4.1 : Initial Investment Analysis - Analyze Alternatives

Old Content: Acquisition Management Policy:

Section 2.4.1 : Initial Investment Analysis - Analyze Alternatives

Figure 2.4.1-1 shows key activities of initial investment analysis.

Figure 2.4.1-1 Principal Activities of Initial Investment Analysis



New Content: Acquisition Management Policy:

Section 2.4.1 : What Must Be Done

All proposed investments must answer the same basic questions:

- What is the problem that needs to be addressed or resolved?
- What is the range of alternatives that could address this problem?
- What are the costs, benefits, and risks associated with each alternative?
- Based on the above, what is the recommended course of action?

Figure 2.4-1 illustrates the phases and decision points of investment analysis. Initial investment analysis evaluates alternative solutions to service needs, and recommends the most promising for further development. Final investment analysis develops detailed cost and benefits estimates, detailed plans, and final requirements for the most promising alternative.

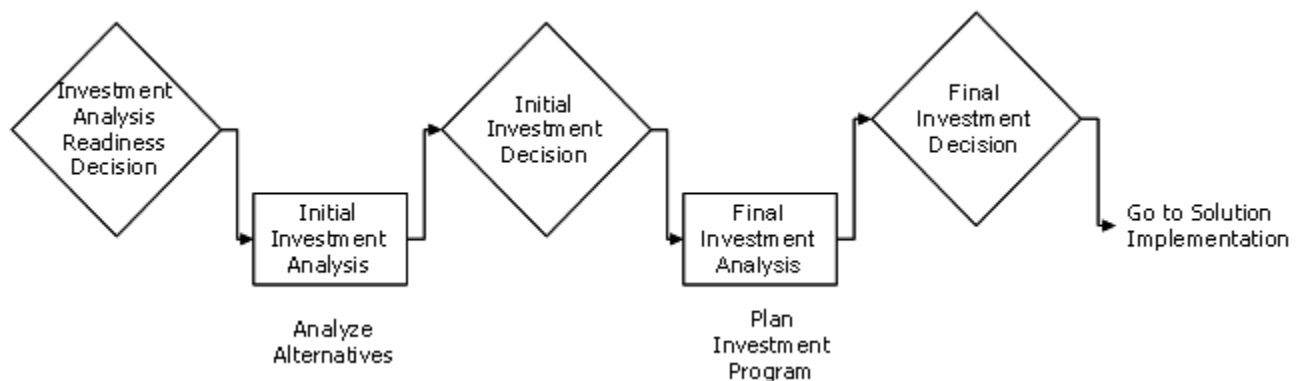


Figure 2.4-1 Phases and Decision Points of Investment Analysis

The scale of activities required during investment analysis is based on the acquisition category (ACAT) assigned to the investment opportunity. In general, the larger and more complex an investment, the greater the level of effort required during investment analysis.

Very complex investment programs are structured into manageable, lower-risk segments and approved incrementally by the investment decision authority. When sequential segments are required to fully implement an investment opportunity, the service organization conducts final investment analysis for each segment and brings planning and baseline documents to the investment decision authority for approval.

Figure 2.4-2 defines the key activities that must be completed during initial investment analysis.

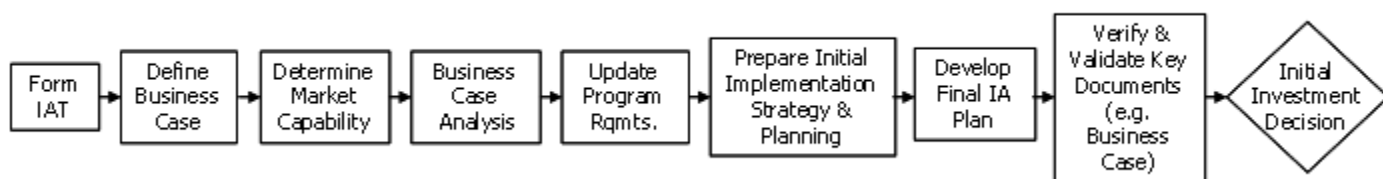


Figure 2.4-2 Key Activities of Initial Investment Analysis

Figure 2.4-3 defines the key activities that must be completed during final investment analysis.

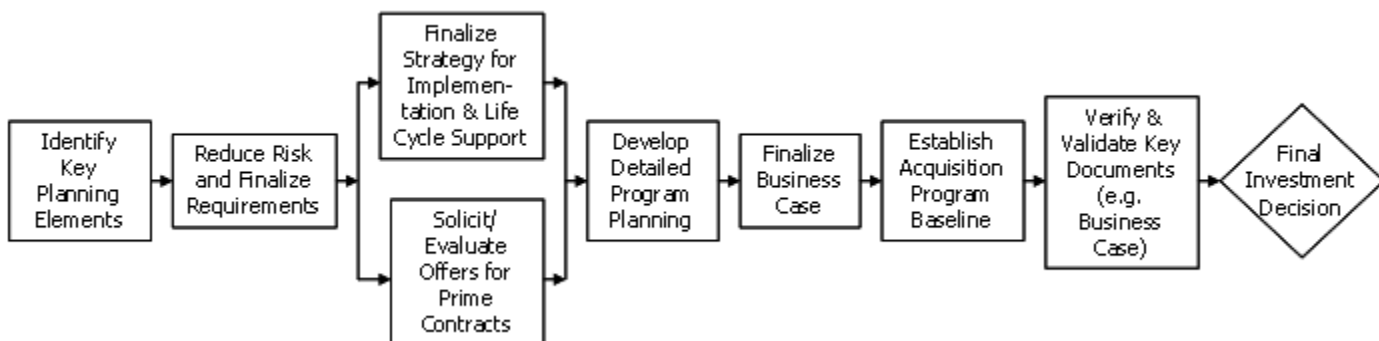


Figure 2.4-3 Key Activities of Final Investment Analysis

Detailed guidance is located at: <http://fast.faa.gov/InvestmentAnalysis.cfm>. In all cases, organizations conducting investment analysis shall apply the standard processes and guidelines located in the investment analysis section of FAST.

Red Line Content: Acquisition Management Policy:

Section 2.4.1 : ~~Initial Investment Analysis~~ What Must Be Done

All proposed investments must answer the same basic questions:

- What is the problem that needs to be addressed or resolved?
- What is the range of alternatives that could address this problem?
- What are the costs, benefits, and risks associated with each alternative?
- Based on the above, what is the recommended course of action?

Figure 2.4-1 illustrates the phases and decision points of investment analysis. Initial investment analysis evaluates alternative solutions to service needs, and recommends the most promising for further development. Final investment analysis develops detailed cost and benefits estimates, detailed plans, and final requirements for the most promising alternative.

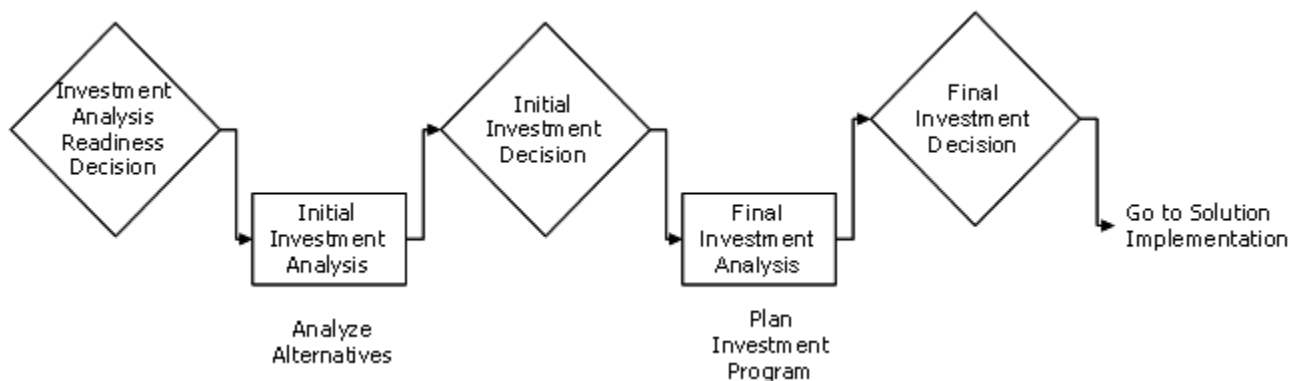


Figure 2.4-1 shows Phases and Decision Points of Investment Analysis

The scale of activities required during investment analysis is based on the acquisition category (ACAT) assigned to the investment opportunity. In general, the larger and more complex an investment, the greater the level of effort required during investment analysis.

Very complex investment programs are structured into manageable, lower-risk segments and approved incrementally by the investment decision authority. When sequential segments are required to fully implement an investment opportunity, the service organization conducts final investment analysis for each segment and brings planning and baseline documents to the investment decision authority for approval.

Figure 2.4-2 defines the key activities that must be completed during initial investment analysis.

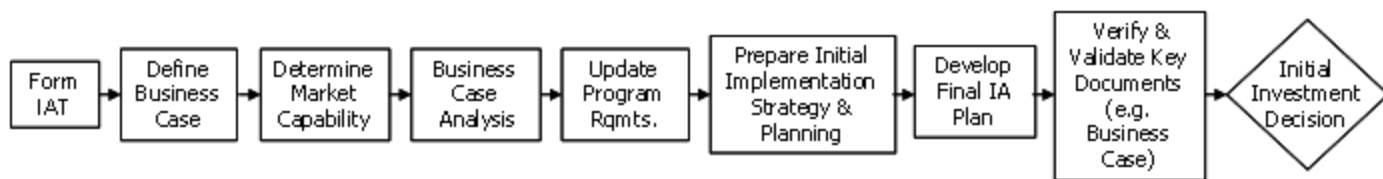


Figure 2.4.1-1 Principal Key Activities of Initial Investment Analysis

Figure 2.4-3 defines the key activities that must be completed during final investment analysis.

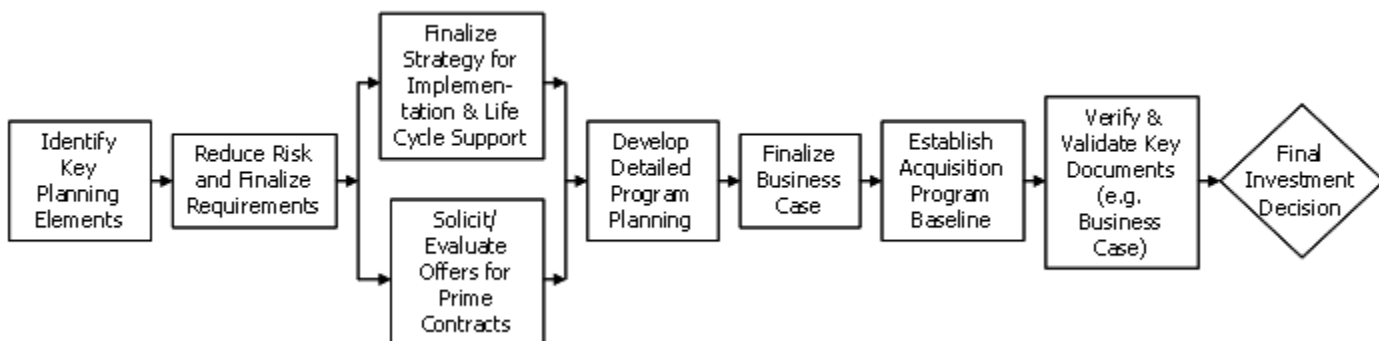


Figure 2.4-3 Key Activities of Final Investment Analysis

Detailed guidance is located at: <http://fast.faa.gov/lifecycle/lpd/investab.htm>. In all cases, organizations conducting investment analysis shall apply the standard processes and guidelines located in the investment analysis section of FAST.

Section 2.4.2 : Initial Investment Decision

Old Content: Acquisition Management Policy:

Section 2.4.2 : Initial Investment Decision

The investment decision authority selects the best alternative for implementation at the initial investment decision, based on information in the business case analysis report and preliminary Exhibit 300 (designated programs only), or rejects the alternatives and specifies what action is needed. In making the decision, the investment decision authority uses the following standard selection criteria when determining which solution best contributes to FAA strategic and performance goals: benefits, lifecycle cost; benefit to cost ratio; consistency with the enterprise

architecture; impact on flight plan goals, and risk. When technology is not mature or when requirements are not well-defined, the investment decision authority approves such action as research, analysis, or development rather than final investment analysis. Investment decision authority members agree on how each organization will support final investment analysis. Commitments are recorded in the plan for final investment analysis.

New Content: Acquisition Management Policy:

Section 2.4.2 : Outputs and Products ~~Red Line Content:~~ Acquisition Management Policy:

Section 2.4.2 : ~~Initial Investment~~ Outputs and Decision Products ~~The investment decision authority selects the best alternative for implementation at the initial investment decision, based on information in the business case analysis report and preliminary Exhibit 300 (designated programs only), or rejects the alternatives and specifies what action is needed. In making the decision, the investment decision authority uses the following standard selection criteria when determining which solution best contributes to FAA strategic and performance goals: benefits, lifecycle cost; benefit to cost ratio; consistency with the enterprise architecture; impact on flight plan goals, and risk. When technology is not mature or when requirements are not well-defined, the investment decision authority approves such action as research, analysis, or development rather than final investment analysis. Investment decision authority members agree on how each organization will support final investment analysis. Commitments are recorded in the plan for final investment analysis.~~

Section 2.4.2.1 : Entrance Criteria

Old Content: Acquisition Management Policy:

Section 2.4.2.1 : Entrance Criteria

The following are required at the initial investment decision:

- Updated program requirements document;
- Business case analysis report;
- Preliminary Exhibit 300 and scoring results (designated programs only);
- Initial implementation strategy and planning document;
- Updated enterprise architecture products and amendments;
- Plan for final investment analysis.

New Content: Acquisition Management Policy:

Section 2.4.2.1 : Initial Investment Analysis

The principal output for initial investment analysis is information that enables the investment decision authority to select the best alternative that meets the required performance and offers the greatest value to the FAA and its customers. The following are required products:

- Updated program requirements document;
- Initial business case;
- Initial implementation strategy and planning document; and
- Plan for final investment analysis.

Red Line Content: Acquisition Management Policy:

Section 2.4.2.1 : ~~Entrance Criteria~~*Initial Investment Analysis*

The ~~following are required at the~~*principal output for initial investment initial analysis is information that enables the investment decision authority to select the best alternative that meets the required performance and offers the greatest value to the FAA and its customers. The following are required products:*

- Updated program requirements document; ~~Business case analysis report;~~
 - ~~Preliminary Exhibit 300 and scoring results (designated~~*Initial* ~~programs~~*business only) case;*
 - Initial implementation strategy and planning document; ~~Updated enterprise architecture products and amendments;~~
 - Plan for final investment analysis.
-

Section 2.4.2.2 : Investment Decision Authority Actions

Old Content: Acquisition Management Policy:

Section 2.4.2.2 : Investment Decision Authority Actions

The investment decision authority (see Table 1.2.5-1):

- Selects the alternative to be implemented or rejects the alternatives and specifies what action is needed;
- Approves the preliminary Exhibit 300 (designated programs only);
- Approves entry into final investment analysis;
- Approves funding for any analytical or developmental work related to the selected alternative;
- Designates the service organization to lead final investment analysis and be responsible for solution implementation.

New Content: Acquisition Management Policy:

Section 2.4.2.2 : Final Investment Analysis

The principal output for final investment analysis is detailed planning for the alternative selected for implementation. The following are required products:

- Acquisition program baseline;
- Final program requirements document;
- Final business case;
- Final implementation strategy and planning document; and
- Updated enterprise architecture products and amendments.

Red Line Content: Acquisition Management Policy:

Section 2.4.2.2 : ~~Investment Decision~~*Final Authority Actions**Investment Analysis*

The ~~investment decision~~ **principal authority** ~~output~~ (see ~~for~~ Table ~~final~~ 1.2.5-1): Selects ~~investment~~ the alternative to be implemented or rejects the alternatives ~~analysis is detailed planning for the~~ **alternative selected for and implementation.** specifies what action is ~~The following are required~~ needed: **products:**

- Approves the preliminary Exhibit **Acquisition** 300 **program** (designated programs only) **baseline**;
- Approves entry **Final** into final **program** investment analysis **requirements document**;
- Approves funding for any analytical or developmental work related to the **Final** selected alternative **business case**;
- Designates the service **Final** organization to **implementation** lead final investment **strategy and planning** analysis **document**; and
- **Updated** be responsible for solution implementation **enterprise architecture products and amendments**.

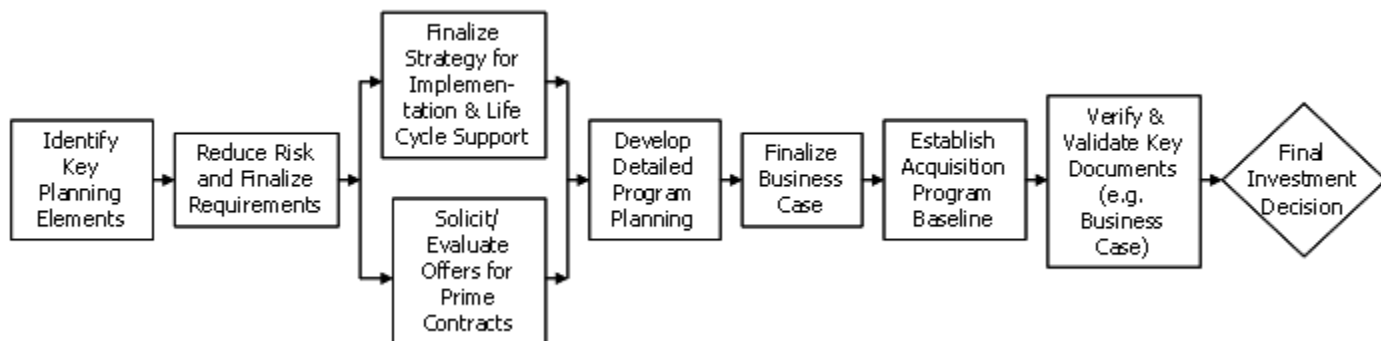
Section 2.4.3 : Final Investment Analysis - Plan and Baseline the Investment

Old Content: Acquisition Management Policy:

Section 2.4.3 : Final Investment Analysis - Plan and Baseline the Investment

The plan for final investment analysis specifies the resources, schedule, activities, documentation and exit criteria for final investment analysis. Figure 2.4.3-1 identifies principal activities.

Figure 2.4.3-1 Principal Activities of Final Investment Analysis



New Content: Acquisition Management Policy:

Section 2.4.3 : Who Does It?

Investment analysis is a collaborative process. Analyses are performed by investment analysis teams that include representatives from key stakeholder organizations. Team membership is flexible, depending on the needs of the analysis, but should include the full range of skills and expertise required to undertake the work. Teams typically include system, technical, specialty engineering and operational subject-matter experts, and business analysts (benefits, cost, etc.). The implementing service organization normally leads the investment analysis team.

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The Investment Planning and Analysis (IP&A) organization provides standards, guidance, training, and consulting services to ensure consistency in the conduct of investment analyses. IP&A analysts also serve as members of investment analysis teams and, as appropriate, lead, conduct, and review business case analyses. IP&A performs verification and validation of the business case. AFC-300 performs these services for ITEB programs.

Stakeholder participation is important throughout investment analysis since stakeholder support for the approved solution at the initial investment decision is key to program success. Coordination with stakeholders is the responsibility of the implementing service organization.

Red Line Content: Acquisition Management Policy:

Section 2.4.3 : Final Investment Who Does Analysis—Plan and Baseline the Investment It?

The plan Investment analysis for is a collaborative process. Analyses are performed final by investment analysis specifies teams that include representatives from key stakeholder organizations. Team membership is flexible, depending on the needs of the analysis, but should include the full range of skills and expertise required to undertake the resources work. Teams typically include system, technical, specialty engineering and operational subject-matter experts, schedule and business analysts (benefits, activities cost, documentation etc.). The implementing service organization normally leads the investment analysis team.

The Investment Planning and exit Analysis criteria (IP amp;for A) organization provides standards, guidance, training, and consulting final services to ensure consistency in the conduct of investment analysis analyses. Figure IP&A analysts also serve as members of investment analysis teams and, as 2 appropriate, lead, conduct, and review business case analyses. 4 IP&A performs verification and validation of the business case. 3 AFC-300 performs these services identifies principal activities for ITEB programs.

Figure

Stakeholder 2.4 participation is important throughout investment analysis since stakeholder support for the approved solution at the initial investment decision is key to program success. 3-1 Coordination with Principal Activities stakeholders is the responsibility of Final the implementing Investment service Analysis organization.

-

Section 2.4.4 : Final Investment Decision

Old Content: Acquisition Management Policy:

Section 2.4.4 : Final Investment Decision

The final investment decision determines whether an investment opportunity is approved for funding and entry into solution implementation. The investment decision authority uses standard FAA selection criteria when making the decision. Decision authority members agree at the final

investment decision what each will do to implement the solution. Commitments are included in the record of decision and tracked at all future program reviews.

Once segment of an approved complex investment program is successfully executed, the service organization conducts final investment analysis as prelude to a final investment decision for each subsequent segment of work.

New Content: Acquisition Management Policy:
Section 2.4.4 : Who Approves?

The investment decision authority is determined by ACAT level and can be found at:
<http://fast.faa.gov/docs/acqcattable.xls>.

In making investment decisions, the IDA uses the following standard selection criteria:

- Lifecycle costs;
- Benefits;
- Risk;
- Benefit to cost ratio;
- Consistency with the enterprise architecture; and
- Impact on FAA strategic goals.

Red Line Content: Acquisition Management Policy:
Section 2.4.4 : ~~Final~~Who Investment Decision Approves?

The ~~final investment decision determines whether an investment opportunity is approved for funding and entry into solution implementation. The~~ investment decision authority ~~uses standard FAA selection criteria~~is when making the~~determined by ACAT~~ decision~~level~~ Decision authority members agree~~and can be found~~ at the final ~~investment decision what each will do to implement the solution~~http://fast~~. Commitments are included in the record of decision and tracked at all future program reviews~~faa.gov/acquisition/docs/acqcattable.xls.

~~Once segment~~In of an approved complex~~making~~ investment program is successfully executed~~decisions~~, the ~~service organization conducts final investment analysis~~IDA uses the following standard selection ~~as~~criteria:

- Lifecycle ~~prelude~~costs;
- Benefits;
- Risk;
- Benefit to ~~a~~cost ~~final~~ratio;
- Consistency ~~investment~~with ~~decision~~the enterprise ~~for~~architecture; ~~each~~and
- Impact ~~subsequent segment of work~~on FAA strategic goals.

Section 2.4.4.1 : Entrance Criteria

Old Content: Acquisition Management Policy:

Section 2.4.4.1 : Entrance Criteria

The following are required at the final investment decision:

- Final program requirements document;
- Final business case analysis report;
- Implementation strategy and planning document;
- Acquisition program baseline;
- Updated enterprise architecture products and amendments;
- Exhibit 300 and scoring results for designated programs;
- Recommended authority for the product demonstration and production decisions (if required) and the in-service decision.

New Content: Acquisition Management Policy:

Section 2.4.4.1 : Initial Investment Decision

At the initial investment decision, the investment decision authority selects the best alternative for implementation or rejects all alternatives and specifies what action is needed next.

If the IDA approves an alternative, it:

- Selects an alternative for implementation;
- Approves entry into final investment analysis;
- Approves funding for any analytical or developmental work related to the selected alternative; and
- Designates a service organization to lead final investment analysis and be responsible for solution implementation.

Alternatives can be rejected if the technology is not mature enough or when requirements are not well-defined. If rejected, the IDA can approve such actions as research, further analysis, development, or terminate the investment.

Red Line Content: Acquisition Management Policy:

Section 2.4.4.1 : ~~Entrance Criteria~~Initial Investment Decision

~~The following are required~~At the initial investment decision, the~~final~~investment decision authority selects the best alternative for implementation or rejects all alternatives and specifies what action is needed next.

If the IDA approves an alternative, it:

- ~~Final program requirements~~Selects an alternative~~document~~for implementation;
- ~~Final~~Approves~~business case~~entry into~~analysis~~final investment~~report~~analysis;

- ~~Implementation strategy and planning~~ Approves funding for any document; Acquisition analytical program or baseline; Updated developmental enterprise architecture products and work related to the amendments selected alternative; and
- ~~Exhibit~~ Designates a service organization to lead final investment ~~300~~ analysis and scoring be results responsible for designated solution programs; implementation.

~~Recommended~~

Alternatives authority can ~~for~~ be rejected if the product demonstration technology is and production not decisions (if mature required) enough and or when requirements are not well-defined. If rejected, the IDA can approve such actions as research, further analysis, development, or terminate the investment.

~~in-service decision.~~

Section 2.4.4.2 : Investment Decision Authority Actions

Old Content: Acquisition Management Policy:

Section 2.4.4.2 : Investment Decision Authority Actions

The investment decision authority (see Table 1.2.5-1) approves, disapproves, or modifies the recommendations in the final investment decision package. If the investment decision authority disapproves the recommendations, it returns the investment package with specific instructions for further work or terminates the effort. If the investment decision authority accepts the recommendations, it:

- Approves the investment program segment for implementation and delegates responsibility to the appropriate service organization;
- Approves the final requirements document, final business case analysis report, and implementation strategy and planning document;
- Approves the acquisition program baseline for variance tracking;
- Commits the FAA to funding of the program segment, as specified in the acquisition program baseline;
- Approves adjustments to FAA plans and budgets to reflect the investment decision;
- Designates the product demonstration and production (if applicable) decision authority and the in-service decision authority.

New Content: Acquisition Management Policy:

Section 2.4.4.2 : Final Investment Decision

The investment decision authority makes the final investment decision. If the IDA disapproves the recommendation, it returns the investment package with specific instructions for further work or terminates the effort. If the IDA accepts the recommendations, it:

- Approves the investment program for implementation and delegates responsibility to the appropriate service organization;
- Approves the final program requirements document, final business case, and the implementation strategy and planning document;
- Approves the acquisition program baseline;
- Commits the FAA to funding the program segment, as specified in the acquisition program baseline;
- Approves updated enterprise architecture products and amendments; and
- Approves adjustments to FAA plans and budgets to reflect the investment decision.

Before the IDA approves documents at the initial or final investment decisions, they require approval from other officials, as can be found in the [AMS policy section on acquisition planning and control documents](#).

Red Line Content: Acquisition Management Policy:

Section 2.4.4.2 : Final Investment Decision Authority Actions

The ~~investment decision authority (see Table 1.2.5-1) approves, disapproves, or modifies the recommendations in~~ makes the final investment decision ~~package~~. If the ~~investment decision authority~~ IDA disapproves the ~~recommendations~~ recommendation, it returns the investment package with specific instructions for further work or terminates the effort. If the ~~investment decision authority~~ IDA accepts the recommendations, it:

- Approves the investment program ~~segment~~ for implementation and ~~delegates responsibility to~~ the appropriate service organization;
- Approves the final program requirements document, final business case ~~analysis report~~, and the implementation strategy and planning document;
- Approves the acquisition program baseline ~~for variance tracking~~;
- Commits the FAA to funding ~~of~~ the program segment, as specified in the acquisition program baseline;
- Approves updated enterprise architecture products and amendments; and
- Approves adjustments to FAA plans and budgets to reflect the investment decision.

Designates

Before the product demonstration and production IDA approves documents at (if the applicable) initial decision authority or final and investment decisions, they require approval from other officials, as can be found in the in-service AMS decision policy authority section on acquisition planning and control documents.