

Lessons Learned and Lives Saved 1967 - 2007



INFORMATION TECHNOLOGY STRATEGIC PLAN FY 2007 – FY 2012

A Key Component in Achieving NTSB's Mission

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CIO's Message: Bob Scherer, Chief Information Officer

As a partner in achieving NTSB mission success, I am committed to efficiently and effectively deploying and managing Information Technology (IT) assets and investments while ensuring interoperability and security in a robust IT environment.

Information Technology will continue to become a more important *component* in achieving success in support of the National Transportation Safety Board's Mission:

to promote transportation safety by

- maintaining our congressionally mandated independence and objectivity;
- conducting objective, precise accident investigations and safety studies;
- performing fair and objective airman and mariner certification appeals; and
- advocating and promoting NTSB safety recommendations. And

to assist victims of transportation accidents and their families.

Our IT Strategic Goals are aligned with the Safety Board's Mission to maximize the innovative and effective use of technology. Emerging information technologies continue to create new challenges and opportunities for improving service to our customers while reducing costs.

This year, the Office of the Chief Information Officer continued its work to establish a foundation for improving the delivery of IT products and services at the National Transportation Safety Board (NTSB). One component of that foundation is the refinement of the IT Strategic Plan at the Safety Board.

I believe that an effective way to measure the performance of an IT organization, or any organization, is to apply a series of maturity models. Ultimately, the success of an IT organization relies upon its people, its processes and its technology. As a result I am fully committed to effectively utilizing process maturity models to achieve and measure results; enhancing IT Security to protect our systems against future vulnerabilities and threats; and preparing our IT workforce for future requirements. To achieve an IT organization that fully supports the Safety Board the Office of the Chief Information Officer has established seven IT Strategic Goals and corresponding Focus Areas: ***Enterprise Architecture, IT Security, E-Government, IT Capital Planning & Investment Control (CPIC), IT Infrastructure, Information and Records Management, and IT Workforce Management.***

Each employee in the Office of the Chief Information Officer should see at least one item, if not multiple items that highlights their contribution to support the office and the Safety Board as a whole.

Executive Summary

The National Transportation Safety Board's Information Technology Strategic Plan provides a specific course of action for effectively managing the Information Technology (IT) Program in support of the Safety Board's overall Mission. NTSB's IT strategy guides IT resources to align with the business goals and establishes specific IT Strategic Goals with Focus Areas and performance measures. This document is our roadmap to achieve targeted RESULTS in providing reliable services, meeting customer expectations, and creating savings.

In order to meet the current and future needs of customers, stakeholders and employees, the Safety Board's exchange and management of information must be based on strategic plans that will improve our capacity for delivering mission results. As a key component in achieving Safety Board's mission success, the IT structure must be based on strategic plans that incorporate the concepts of electronic government and modern IT enterprise architecture.

The Safety Board's emerging governance framework will embrace the distinct modal needs and strengths, and serves as the foundation for the Board's IT strategy. Our modal and support offices serve as leaders for a variety of NTSB initiatives, as well as recognized leaders in their specific fields of endeavor. The goal is to establish and mature an overall framework for integrating business needs and IT. This framework will facilitate cooperation and improve data sharing capabilities within and across modal lines and with the Safety Board's customers and stakeholders.

The Office of the Chief Information Officer has identified seven IT Strategic Goals to maximize the innovative and effective use of technology during the migration of its IT portfolio to integrated, agency-wide business processes and technologies.

NTSB IT Strategic Goals

Enterprise Architecture (EA): Leverage EA to improve NTSB's mission performance and realize its strategic goals and objectives. *(maps to NTSB Strategic Goal #3 – Outstanding Stewardship of Resources and Strategic Goal #4 – Organizational Excellence)*

IT Security: Protect the availability, confidentiality and integrity of NTSB's IT resources. *(maps to NTSB Strategic Goal #3 – Outstanding Stewardship of Resources)*

E-Government: Improve the efficiency and effectiveness of NTSB business processes. *(maps to NTSB Strategic Goal #2 – Increase our Impact on the Safety of the Transportation System and Strategic Goal #3 – Outstanding Stewardship of Resources)*

IT Capital Planning & Investment Control (CPIC): Improve the planning, execution and management of IT investments. *(maps to NTSB Strategic Goal #3 – Outstanding Stewardship of Resources)*

IT Infrastructure: Provide enterprise solutions—improving the quality, accessibility, and information sharing capabilities between NTSB and its customers. *(maps to NTSB Strategic Goal #3 – Outstanding Stewardship of Resources)*

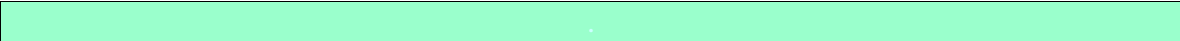
Information and Records Management: Create an effective knowledge-sharing environment while meeting information management standards and requirements. (*maps to NTSB Strategic Goal #3 – Outstanding Stewardship of Resources and Strategic Goal #4 – Organizational Excellence*)

IT Workforce Management: Ensure the availability of IT human capital capable of meeting the goals and NTSB mission challenges. (*maps to NTSB Strategic Goal #1 – Accomplish Objective Investigations of Transportation Accidents to Identify Issues and Actions that Improve Transportation Safety and Strategic Goal #4 – Organizational Excellence*)

A corresponding Focus Area for each IT Strategic Goal has been identified to measure progress. Our strategy establishes the usage of process maturity models including those of the Government Accountability Office (GAO), Office of Management and Budget (OMB), National Institute of Standards and Technology (NIST), and the Federal CIO Council. The long-term goals and performance measures maintain our focus on the bottom line – specific results that we must achieve to be successful in accomplishing our IT Mission.

Intensive efforts have been underway to standardize IT functions and organizations throughout the Federal Government. These efforts will continue and impact NTSB to varying degrees in the coming years. Further standardization along business lines will enable NTSB to accrue costs savings. When opportunities that make business sense arise NTSB will move to take advantage of Lines of Business solutions.

The Office of the Chief Information Officer will continue to implement business and IT initiatives while upgrading information technologies, improving security, and bringing better connections to personnel in the field. We will establish policies that create consistent practices; and develop teams, tactics, and tools to cut cycle time, reduce friction, and improve communication. At the same time, we will work to spread best business practices across the Safety Board. These collective approaches will improve performance, reduce inefficiency and duplication, and provide the support needed to achieve our Mission.



Section I: Introduction

This section introduces key factors that impacted the formation of the Safety Board's IT Strategic Plan. This document is designed to support the Safety Board's overall strategic mission, vision, goals and targeted outcomes previously defined by the Safety Board. The key factors are being presented prior to the Safety Board's IT Strategic Goals and Focus Areas.

Purpose

The National Transportation Safety Board is embarking on a more structured, goal and results oriented planning process both from a strategic and operational planning perspective. A component of this overall effort is the development of an IT Strategic Plan. The Information Technology Strategic Plan builds upon and aligns with the National Transportation Safety Board's FY2007 – FY2012 Strategic Plan. The IT Strategic Plan serves as a catalyst to drive toward the implementation of agency-wide business process and technology improvement efforts and is intended to strengthen the Safety Board's capacity and success in delivering Mission results.

Scope

This IT Strategic Plan provides a specific course of action for integrating the Safety Board's IT strategic planning process with the Board's Strategic Plan for Fiscal Years 2007 through 2012.

The IT Strategic Plan is designed to support the Safety Board's strategic mission and management goals. This plan aligns IT with the Safety Board's major program concerns. The IT Strategic Goals are tied to *Enterprise Architecture, IT Security, E-Government, IT Capital Planning & Investment Control (CPIC), IT Infrastructure, Information and Records Management, and IT Workforce Management.*

IT Challenges

There are many challenges that the Safety Board will continue to encounter including new IT mandates, funding, and limited human resources. Simultaneously, there are rising challenges for enhanced security and safety in support of Homeland Security initiatives; rapid changes in technology; retirement of the "baby boomer" generations and its impact to the IT Workforce; as well as increased expectations of stakeholders for innovative and faster IT service applications.

The Safety Board recognizes that making smart investments, integrating architectures, ensuring secure IT environments, and providing an adequate IT workforce are vital to overcoming these challenges and fulfilling its Strategic Plan. The Safety Board must leverage IT resources through enterprise solutions and increased partnerships, in fulfilling its ultimate commitment of improving IT performance and guaranteeing efficient and effective customer-oriented business operations. Continuous evaluation of process and technology improvement is incorporated into this IT Strategic Plan in order for the Safety Board to meet its four Strategic Goals.

Legislation and Presidential Directives

The Safety Board recognizes the need to adapt to changes mandated by the Administration and Congress and has developed an IT strategy to address legislation and presidential orders that include the items identified below. *Note: Legislation and Presidential Directives are accessible via: <http://www.whitehouse.gov/omb/>.*

- FY 2002 President's Management Agenda (PMA)
- E-Government Act of 2002
- Federal Information Security Management Act (FISMA) of 2002
- OMB's Federal Enterprise Architecture Program
- IT Management Reform Act of 1996 (ITMRA) or Clinger-Cohen Act
- Federal Acquisition Reform Act of 1996 (FARA)
- Government Paperwork Elimination Act 1998 (GPEA)
- Government Management Reform Act of 1994 (GMRA)
- Federal Acquisition Streamlining Act of 1994 (FASA)
- Paperwork Reduction Act of 1995 (PRA)
- Presidential Decision Directive 63 (PDD-63)
- Government Performance and Results Act of 1993 (GPRA)
- Chief Financial Officers Act of 1990 (CFO Act)
- Privacy Act of 1974
- The Freedom of Information Act (FOIA)
- The Federal Records Act (FRA)
- Federal Financial Management Improvement Act (FFMFIA)
- Section 508, Rehabilitation Act of 1998 (29 U.S.C. 794d)
- Rehabilitation Act Amendments (Section 508)
- OMB Circulars:
 - A-11 Preparation, Submission and Execution of the Budget
 - A-130: Management of Federal Information Resources
 - A-16: Coordination of Geographic Information and Related Spatial Data Activities
 - A-76: "Performance of Commercial Activities.
- Homeland Security Presidential Directive (HSPD-12)

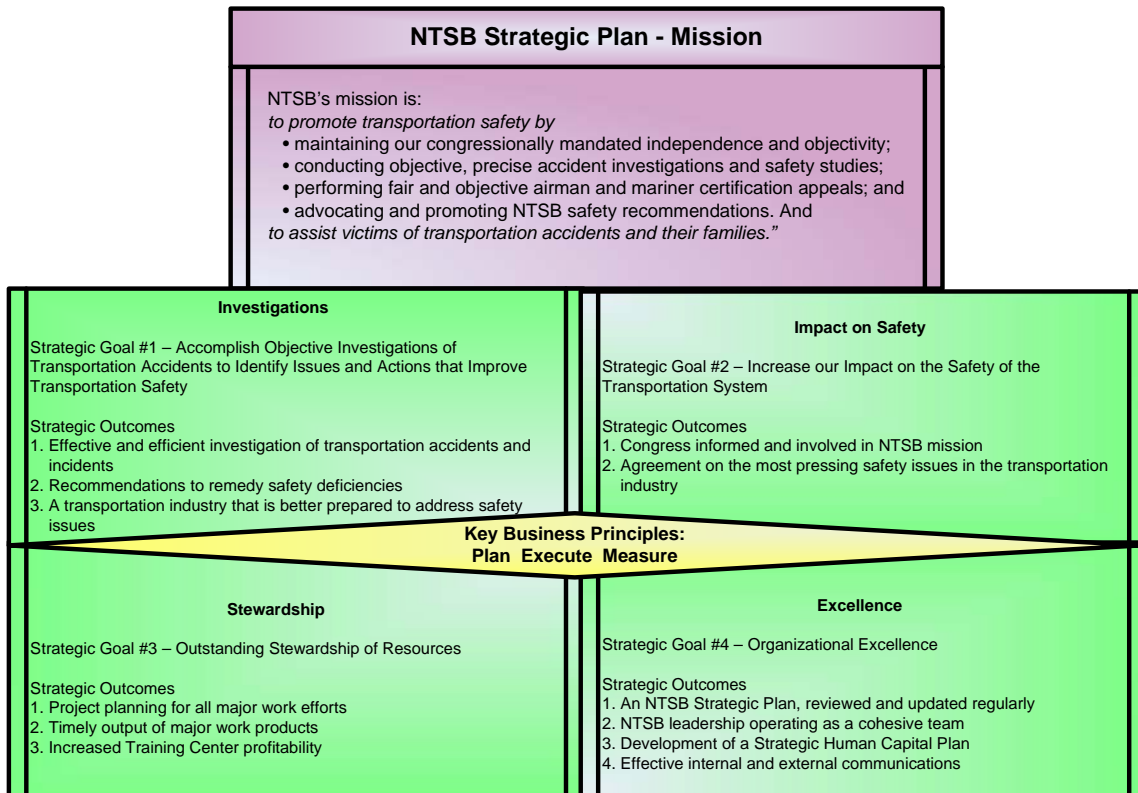
OMB M-06-02: Improving Public Access to and Dissemination of Government Information Using the Federal Enterprise Architecture (FEA) Data Reference

On December 16, 2005, the Office of Management and Budget released *OMB M-06-02 : Improving Public Access to and Dissemination of Government Information Using the FEA Data Reference Model*. The guidance states that "cost-effective and consistent access to and dissemination of government information is essential to promote a more citizen-centered government." The memorandum identifies procedures to organize and categorize information and make it searchable across agencies to improve public access and dissemination, and discusses using the Federal Enterprise Architecture Data Reference Model (DRM). Agencies must continue to review the performance and results of their information dissemination program.

Section 2: Strategic Framework

This section presents an overview of the high level linkages between the National Transportation Safety Board's FY 2007 – 2012 Strategic Plan and the Board's IT Strategic Plan FY 2007 – 2012

NTSB Strategic Plan 2007-2012 Framework



NTSB IT Strategic Plan FY 2007 -2012: IT Mission, Vision, and IT Strategic Principles

IT Mission: To enable the execution of the NTSB safety mission by providing information technology services that support and improve key work processes.



IT Vision: The vision of the Office of the Chief Information Officer is to apply a best practice, integrated approach to providing technology products and services in support of NTSB's mission and customers.

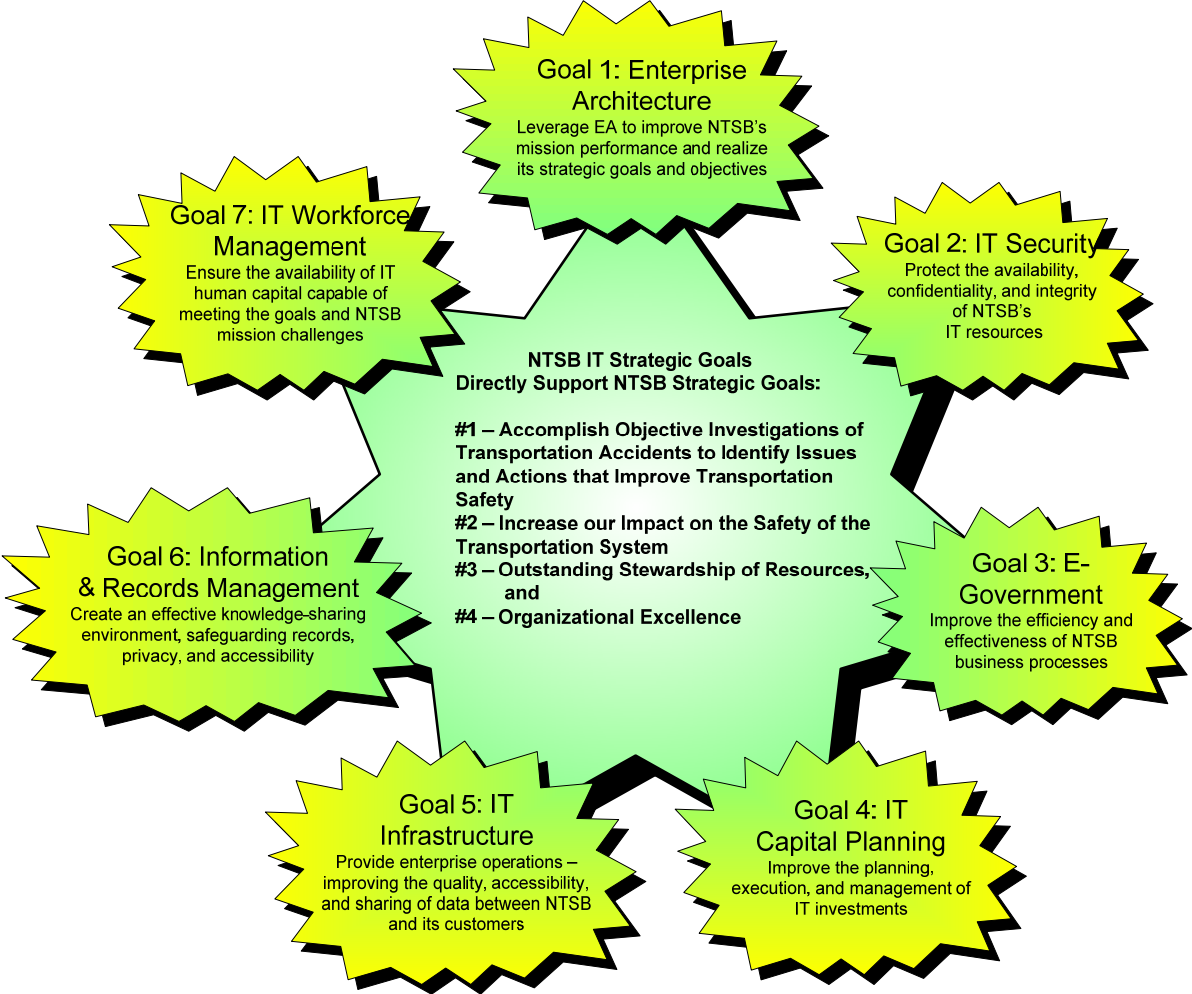


IT Strategic Principles

The following Strategic Principles provide the framework for delivering our IT Mission

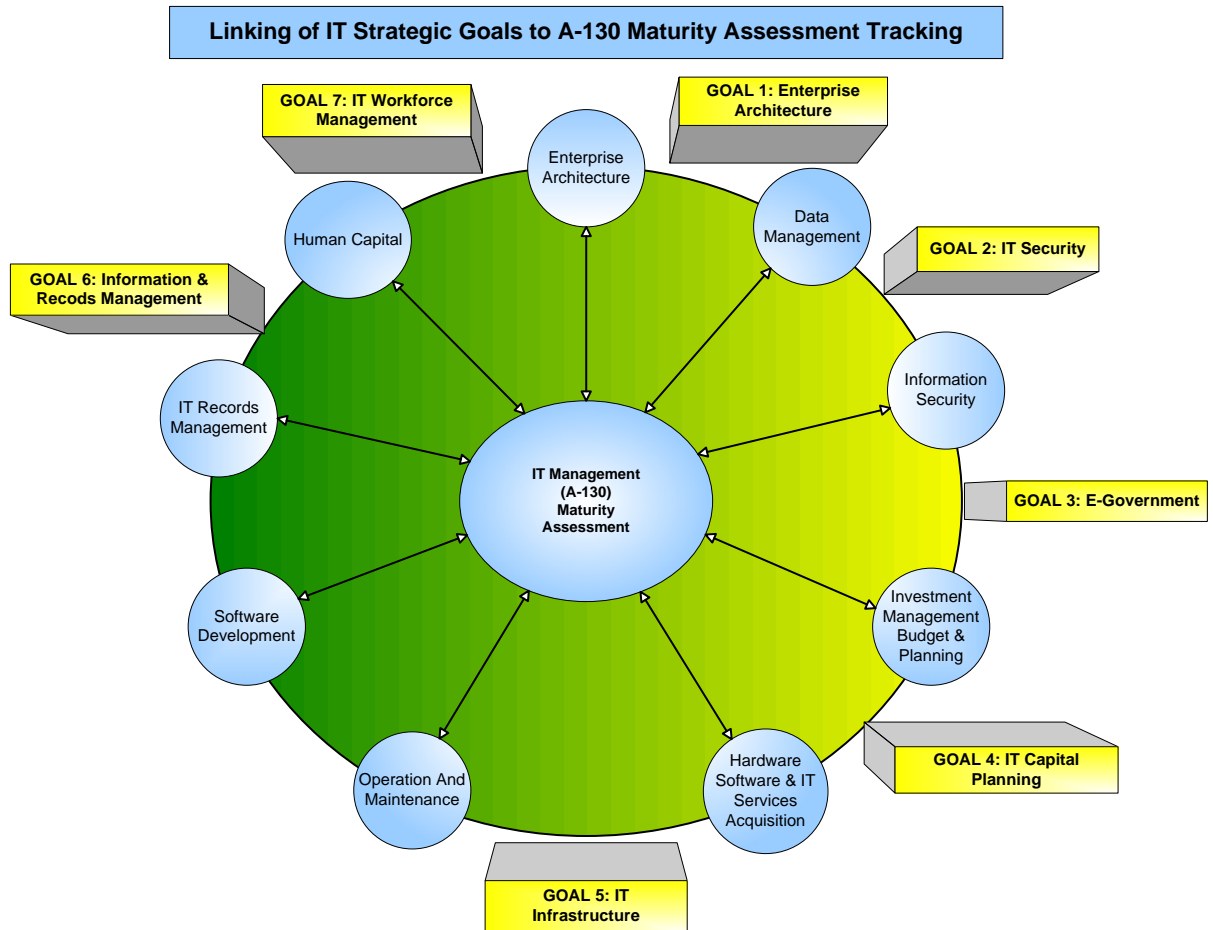
- ***Alignment:*** The Safety Board's strategic mission and management goals will be supported by aligning IT with major program areas.
- ***Enterprise Approach:*** To maximize effective use of technology, the Safety Board will migrate to integrated, agency-wide business processes and technologies.
- ***Teamwork:*** Offices will serve as partners for a variety of IT initiatives. This approach fosters shared ownership, embraces diversity, leverages strengths and is consistent with best practices.
- ***Process Maturity:*** Continuous improvement in IT processes will be achieved by following appropriate published process maturity models.
- ***Measurable:*** Achievement of strategic goals will be measurable and reported regularly.
- ***Support for Best Practices:*** IT strategic goals will address legislative, regulatory and administrative mandates such as FISMA, OMB A-130, HSPD-12, etc.

| |
|---------------------------|
| IT Strategic Goals |
| IT Strategic Goals |
| IT Strategic Goals |



See APPENDIX – A SELECTED OUTCOME AND SUPPORTING ACTIVITY MEASURES FOR SELECTED OUTCOME AND ACTIVITY MEASURES THAT SUMMARIZE OCIO SUPPORT FOR THE SAFETY BOARD'S FOUR STRATEGIC GOALS.

The Safety Board's IT Strategic Goals directly link to the goals indicated in *OMB's A-130 Maturity Assessment Tracking* guide to provide for more effective management for the achievement of the vision. The diagram below illustrates how these goals map to process areas defined by OMB Circular A-130.



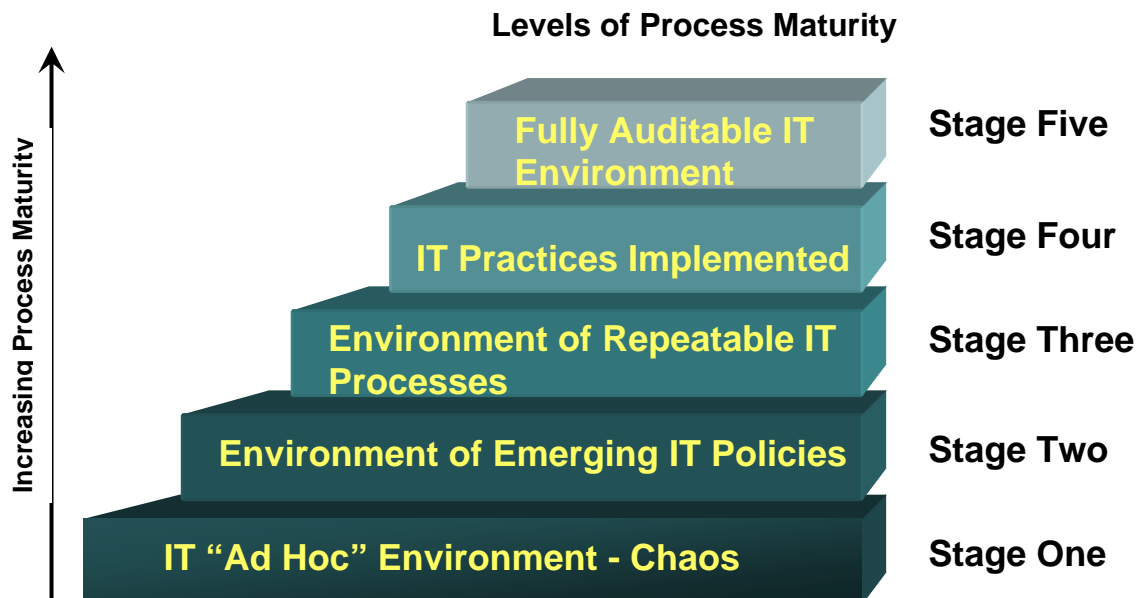
Section 3: Using Process Maturity Models for Managing Results

This section provides a framework for identifying best practices, and measuring progress in achieving IT strategic goals. Process models typically define five stages of maturity with attributes as illustrated below. A Process Maturity Model is provided for each IT Strategic Goal and its Focus Area.

Process Maturity Models

Progress in achieving IT Strategic Goals will be measured using a process maturity model that is specific to meeting the requirements of that goal. The Capability Maturity Model Integration (CMMI) illustrated below describes an evolutionary improvement path from an ad-hoc, immature process to a mature, disciplined process. A comparable model will be used to define specific goals and to measure progress for each IT Strategic Goal. Maturity Models used in this plan are based upon industry, international or federal government models widely used in the IT community.

Capability Maturity Model (CMMI) *

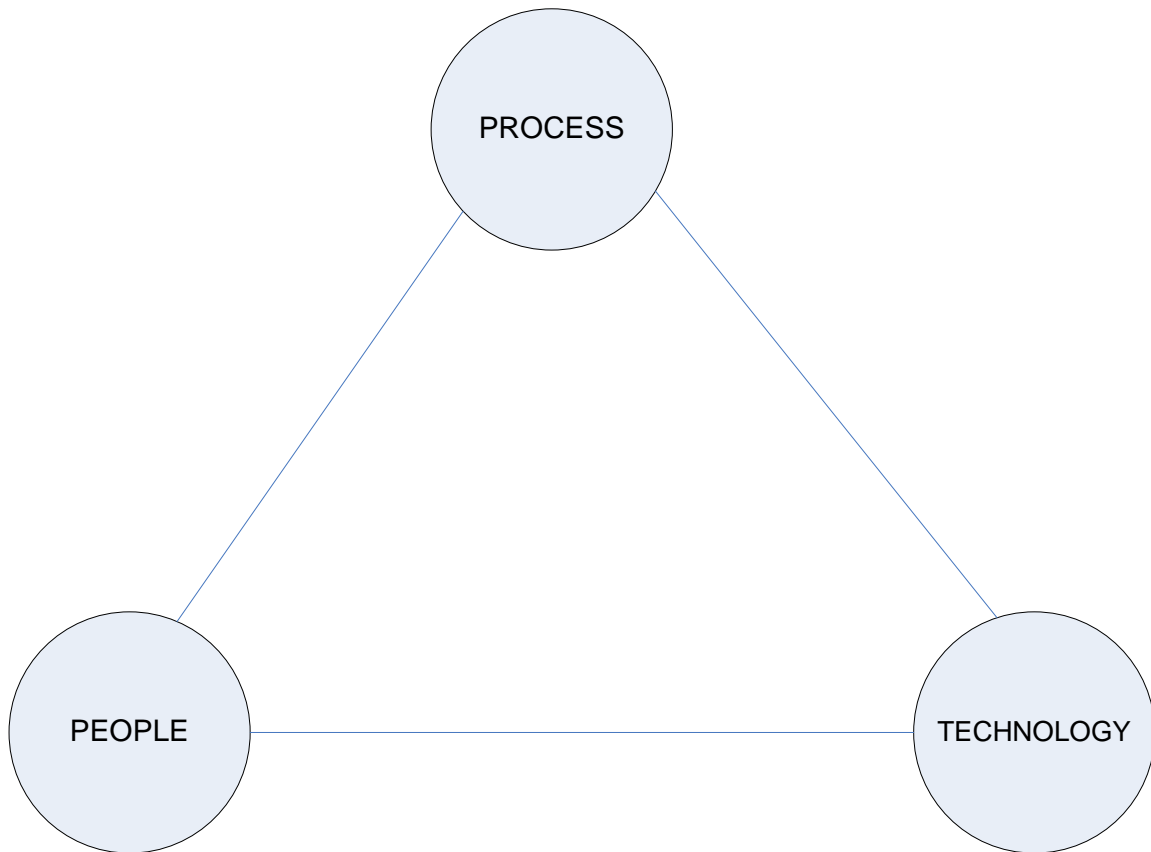


* The Capability Maturity Model (CMMI®) was developed by the Software Engineering Institute at Carnegie-Mellon University.

Process, People, Technology

In the Capability Maturity Model Integration (CMMI) Version 1.2* Overview presentation (<http://www.sei.cmu.edu/cmmi/adoption/pdf/cmmi-overview07.pdf>) the integrated role of Process, People and Technology is highlighted. From the perspective of CMMI:

“While process is often described as a node on the process-people-technology triad, it can also be considered the “glue” that ties the triad together. Everyone realizes the importance of having a motivated, quality work force but even our finest people cannot perform at their best when the process is not understood or operating at its best. Process, people and technology are the major determinants of product cost, schedule, and quality.”



* Capability Maturity Model Integration (CMMI®) was developed by the Software Engineering Institute at Carnegie-Mellon University. Copyright 2007 Carnegie-Mellon University

Section 4: IT Strategic Goals and Focus Areas

In order to more effectively manage the achievement of the IT Vision, an IT Strategic Focus Area has been directly aligned with each IT Strategic Goal. Focus Areas provide key information, the Long Term Strategic Goal, the Process Maturity Model to MEASURE progress, and Outcome Goals.

Focus Area 1: Enterprise Architecture (EA)

Enterprise Architecture (EA) is an emerging discipline at the National Transportation Safety Board. As is the case with this plan, the goal is to not reinvent the wheel but rather draw upon best practices developed across the Government in the area EA. The goal of the EA Program is to ensure IT aligns with the Safety Board's major program concerns. IT alignment will be achieved through an iterative process of mapping business processes, reducing/eliminating redundancies, and through the development of transition plans that will drive the continual refresh and upgrade of infrastructure and applications to meet current and emerging mission needs. Through this iterative process the EA Program will also contribute to the effective alignment of the underlying IT investment portfolio.

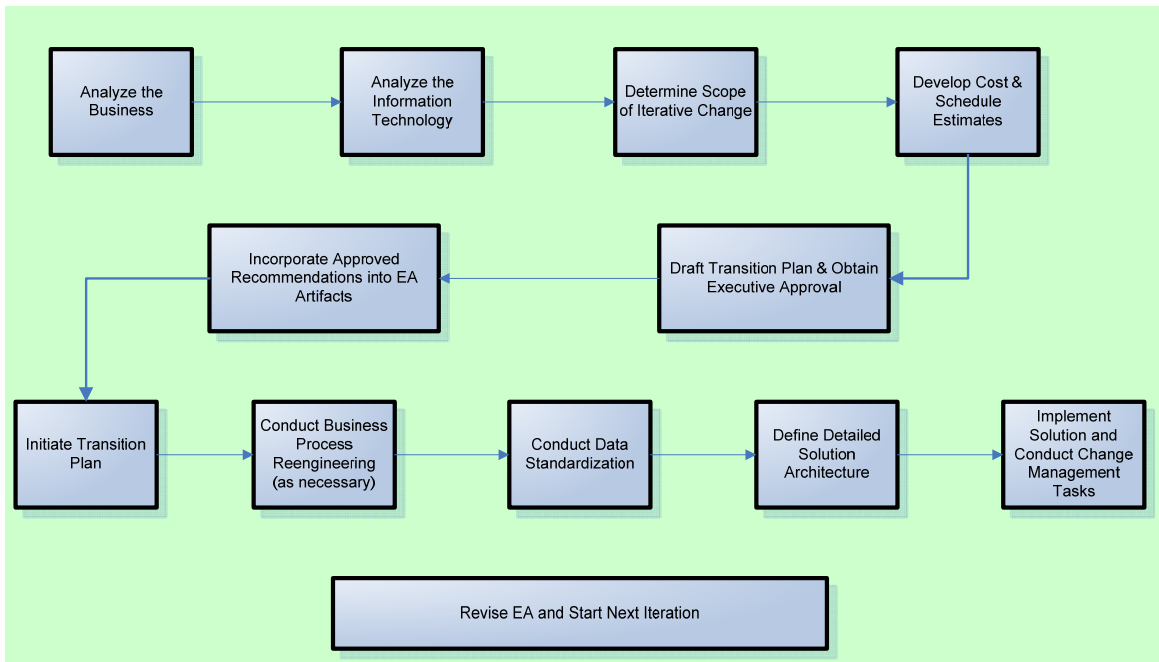
Long Term Strategic Goal

The goal of Enterprise Architecture (EA) is to improve the Safety Board's mission performance and realize its strategic goals and objectives. EA seeks to achieve this goal by:

- Providing strategic business and architecture consulting services to program areas
- Improving the connection between stakeholders and investments
- Streamlining the processes and business rules in the program areas
- Minimizing system redundancies
- Improving data integration and data sharing
- Increasing the re-use of IT assets
- Reducing the total cost of ownership of the Safety Board's IT Portfolio.

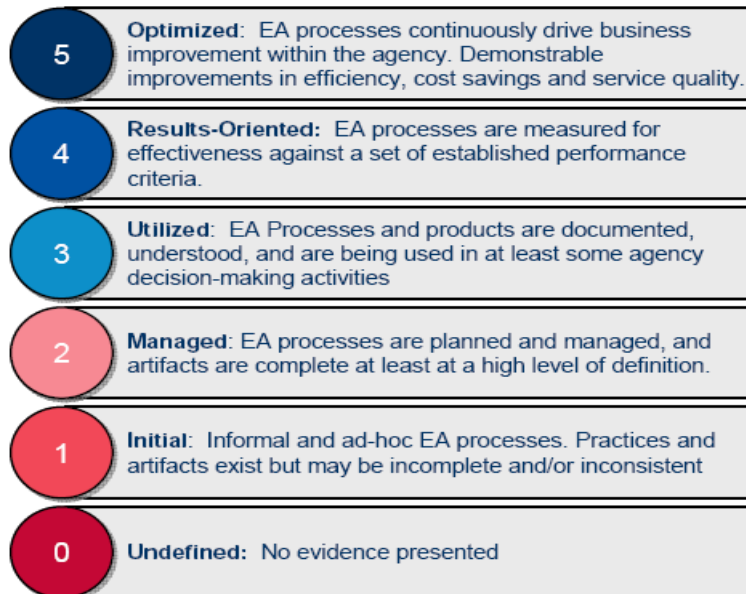
To carry out the iterative EA process and establish a transition the Enterprise Architect will follow a modified version of the Department of Interior's Methodology for Business Transformation (MBT). The methodology identifies opportunities for improving mission performance and internal efficiencies and allows for the development of a transition plan for implementing these opportunities for improvement.

**See Methodology for Business Transformation (MBT) process on next page
Methodology for Business Transformation (MBT)**



Process Maturity Model/Performance Measure

The Safety Board will use **OMB’s Enterprise Architecture (EA) Maturity Framework v2.0** to measure the agency’s progress in this strategic goal.



Within this framework each Federal agency receives an average score in three capability areas: EA Completion, Use, and Results. The average is calculated by summing the score for all criterion within that capability area and then dividing by the number of criteria. Scores are

rounded up to the nearest tenth. The results of the annual assessment process will be reflected in the Status score for E-Government within the President's Management Agenda. Agencies receive an overall score of Green for EA if the capability area score is equal to or greater than 3 in both the "Completion" and "Use" capability areas OR a have a score equal to 3 or greater in the "Results" capability area.

FY07& FY08 Accomplishments

- Acquire slot for Enterprise Architect
- Develop position description and standards
- Initiate hiring process
- Hire Enterprise Architect
- Synchronize EA activities with those of Information Security, Capital Planning, Strategic Planning, Program Management Office
- Complete initial TRM, BRM, SRM and PRM models
- Initiate Business Process Modeling
- Develop and Implement a Configuration Management process

FY09 – FY12 Objectives

- Complete Business Process Modeling
- Complete initial DRM model
- Retire redundant systems identified in Transition Plans
- Adhere to Federal EA Principles
- Achieve a minimum score of 2.5 out of 5.0 (self assessed *) on the OMB EA Maturity Framework (*FY10*)
- Achieve a minimum score of 3.5 out of 5.0 (self assessed *) on the OMB EA Maturity Framework (*FY11*)
- Achieve a minimum score of 4.0 out of 5.0 (self assessed *) on the OMB EA Maturity Framework (*FY12*)
- All EA models will be kept current and compliant with the FEA (*annual*)
- Initiate the development of new Transition Plans based on prioritization actions (*annual*)
- Release updated versions of the five EA Models as appropriate (*annual*)

* Based upon assessment by NTSB team comprised of employees outside OCIO

Stretch Objective(s)

- Reach EA Maturity Framework benchmarks ahead of schedule

Focus Area 2: IT Security

The Safety Board is committed to continuing improvements in its IT security program, and to complying with OMB Circular A-130, Appendix III Security Requirements. The Safety Board maintains a number of systems to support modal and support office mission. This complexity makes security and IT management a very challenging undertaking, and underscores the need for further standardization.

Long Term Strategic Goal

The goal of Information Security is to protect the availability, confidentiality and integrity of the Safety Board's information technology resources. This goal is achieved through the application of requirements specified in OMB Circular A-130, the Federal Information Security Management Act (FISMA) and various U.S. Commerce Department's National Institute of Standards and Technology (NIST) publications. The NTSB IT Security Program uses a risk-based, cost-effective approach to secure information and systems, identify and resolve current IT security weaknesses and risks, and protect against future vulnerabilities and threats.

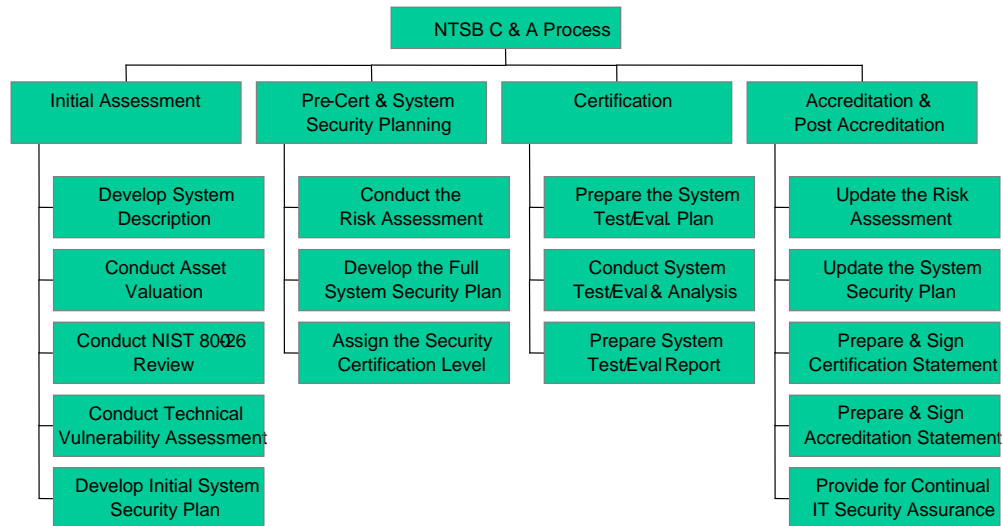
As shown in the table below, NIST has defined 17 areas that must be addressed as part of a world-class Information Security program. These 17 elements must be addressed in order to achieve the long-term strategic goal for this focus area.

NIST Security Program Elements

- | | |
|---|---|
| 1. Risk Management | 10. Hardware and System Software Maintenance |
| 2. Review of Security Controls | 11. Data Integrity |
| 3. Life Cycle | 12. Documentation |
| 4. Authorize Processing (Certification & Accreditation) | 13. Security Awareness, Training, and Education |
| 5. System Security Plan | 14. Incident Response Capability |
| 6. Personnel Security | 15. Identification and Authentication |
| 7. Physical and Environmental Protection | 16. Logical Access Controls |
| 8. Production, Input/Output Controls | 17. Audit Trails |
| 9. Contingency Planning | |

The Certification & Accreditation (C&A) process is a key component of the security program as it consolidates many of the 17 program elements on a system-by-system basis. The Safety Board has adopted an iterative process to reach a level of maturity consistent with resources available.

The process is depicted below:



Process Maturity Model/Performance Measure

The Annual FISMA Report Process will be used to measure NTSB’s progress in this strategic focus area. The Safety Board will continue to improve its FISMA posture and to reach a state where

FY07& FY08 Accomplishments

- Addressed outstanding Department of Transportation’s Office of Inspector General recommendations
- Remain on schedule for existing Plan of Action and Milestones (POA&M)
- Enhanced existing policy, procedure and guidance capability to ensure the foundation of the NTSB IT security program
- Completed annual IT Security Awareness training for at least 95% of NTSB employees, contractors and interns
- Enhanced security controls and procedures for the protection of privacy data and other sensitive data for mobile computing devices, internal databases and applications, and remote access solutions
- Completed Certification and Accreditation (C&A) of the General Support System (GSS)
- Completed ST&E for Accident Investigation Systems (AIS)
- Encrypted 90% of Safety Board’s Mobile Computing Assets
- Integrated IT Security into NTSB projects via the Information Systems Development Life Cycle (ISDLC)

FY09 –FY12 Objectives

- C&A remaining two systems in the NTSB inventory

- Maintain a continuous program assessing the security controls within NTSB maintained information systems by following NIST Special Publication 800-53A
 - POA&M development and execution for any items identified in FISMA audit (*annual*)
 - Mature and improve the existing policy, procedure and guidance capability to ensure the foundation of the NTSB IT security program (*annual*)
 - Mature and improve Incident Response Capability to ensure the proactive and reactive protection of NTSB infrastructure and data (*annual*)
 - Measure and improve the existing risk management and compliance programs with regular vulnerability scanning and penetration testing as the key components of OCIO's continuous monitoring efforts (*annual*)
 - Measure and improve Incident Response Capability to ensure the proactive and reactive protection of NTSB IT infrastructure and data (*annual*)
 - Measure and improve security controls and procedures for the protection of privacy data and other sensitive data for mobile computing devices, internal databases and applications, and remote access solutions (*annual*)
 - Measure and maintain C&A for 100% of the systems in the NTSB inventory (*annual*)
 - Continue to measure and improve the Security Awareness, Training and Education Program to ensure at least 95% of NTSB employees, contractors and interns have an increased level of awareness and experience commensurate to their areas of responsibility (*annual*)
- Based upon assessment by NTSB team comprised of employees outside OCIO

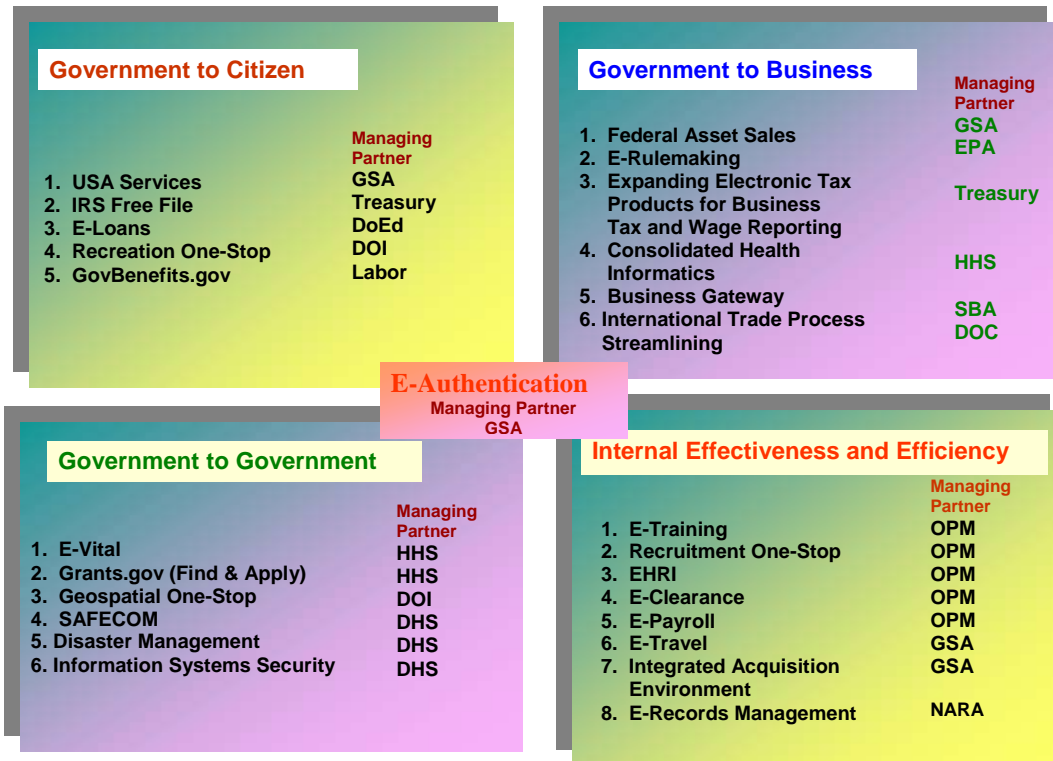
Stretch Objective(s)

- No current stretch objective(s) for this focus area.

Focus Area 3: E-Government

E-Government has distinct and different meanings to individuals and organizations. For the purposes of this plan E-Government refers to the use of technology to deliver improvements in the Safety Board’s mission areas and the Safety Board’s partnership with existing and emerging Government-wide technology initiatives. For example NTSB currently partners with the Department of the Interior for financial and other services as part of their participation in the Human Resources and the Financial Management Lines of Business offerings.

E-Government Initiatives



E-Government initiatives cut across multiple Federal agencies and address opportunities to provide services in the areas of Government to Citizen, Government to Business, Government to Government and Internal Effectiveness. Current initiatives in each of these areas are summarized in the diagram above.

Long Term Strategic Goal

The goal of E-Government is to improve the efficiency and effectiveness of the Safety Board's business processes. E-Government technology will enable us to do our jobs better. Using Safety Board's emerging Enterprise Architecture program the Office of the Chief Information Officer will explore and map NTSB mission needs and continue to look for opportunities for E-Government investment.

Another facet of the Safety Board's Strategic Goal regarding E-Government will include the development of a strong Project Management practice. The Safety Board will use Project Management throughout OCIO, and recognizes that the scope and nature of the Board's efforts undertaken as part of E-Gov will require strong PM skills. As a result individuals in the System Support Division will serve as mentors for Project Management in OCIO.

This goal is directly supported by several of the other goals identified in this plan, in the EA, IT Security and IT Infrastructure focus areas. In addition, this focus area covers the areas of Section 508 compliance and Web Management. The maturity model used to measure performance in this area is the President's Management Agenda.

The President's Management Agenda (PMA)

Released by the OMB in August 2001, the President's Management Agenda (PMA) identified five mutually reinforcing initiatives, each addressing a key element in management performance with a significant opportunity for improvement: Strategic Management of Human Capital; Competitive Sourcing; Improved Financial Performance; *Expanded Electronic Government*, and Budget and Performance Integration.

Expanded Electronic Government: This PMA initiative launched to make better use of Federal Government information technology (IT) investments, improve the accessibility of information and services, and reduce response time to citizens. The vision for e-Government involves citizens and businesses easily obtaining services and interacting with the Federal Government while improving overall efficiency and effectiveness. The Safety Board's IT Strategic goals are aligned with PMA e-Government performance measures.

Process Maturity Model/Performance Measure

This aggressive strategy focuses on managing areas of weakness across the government, and making improvements where the most progress can be achieved. OMB measures and scores each Federal agency's PMA performance on a quarterly basis with its *Stoplight Scoring System*. The PMA Scorecard employs a simple grading system common today in well-run businesses: **Green** for success, **Yellow** for mixed results, and **Red** for unsatisfactory. One of the factors included in the scorecard is the Enterprise Architecture maturity score discussed in Focus Area 1. Additional scorecard items applicable to this focus area include IT Security, Privacy and Project Management.

FY07 – FY08 Accomplishments

- Initiated standard Project Management training
- Deployed new COTS-based Help Desk system

- Established Web Guild
- Implemented RSS Feeds
- Deployed FOIAExpress system
- Ascertained Section 508 Compliance
- Upgraded DMS architecture
- Updated Information System Development Life Cycle to support:
 - Enterprise Architecture
 - IT Security
 - Capability Maturity Model Integration (CMMI) Level II
 - Data Privacy
- Conduct NTSB web standards compliance reviews on NTSB web sites

FY09 –FY 12 Objectives

- Deploy eADMS in production environment
- Deploy agency-wide Project Tracking System
- Enhance DMS functionality
- Enhance Safety Board’s use of regulations.gov and other e-gov/center of excellence solutions
- Develop, maintain, and facilitate a sound and integrated web-related information technology architecture for the Safety Board by improving the quality of the Intranet and Internet web sites
- 90% of E-Gov projects within 10% of the goals established in the cost, schedule, and performance baseline (***FY09***)
- 95% of E-Gov projects within 10% of the goals established in the cost, schedule, and performance baseline (***FY10***)
- Achieve PMP certification for at least 75% of Systems Support Division staff (***FY12***)
- Assess NTSB production systems per Steady State CPIC Phase requirements (***annual***)
- Partner with Enterprise Architect on development and execution of Transition Plan (***annual***)
- Review NTSB web sites for compliance with applicable Federal statutes and directives (***annual***)

Stretch Objective(s)

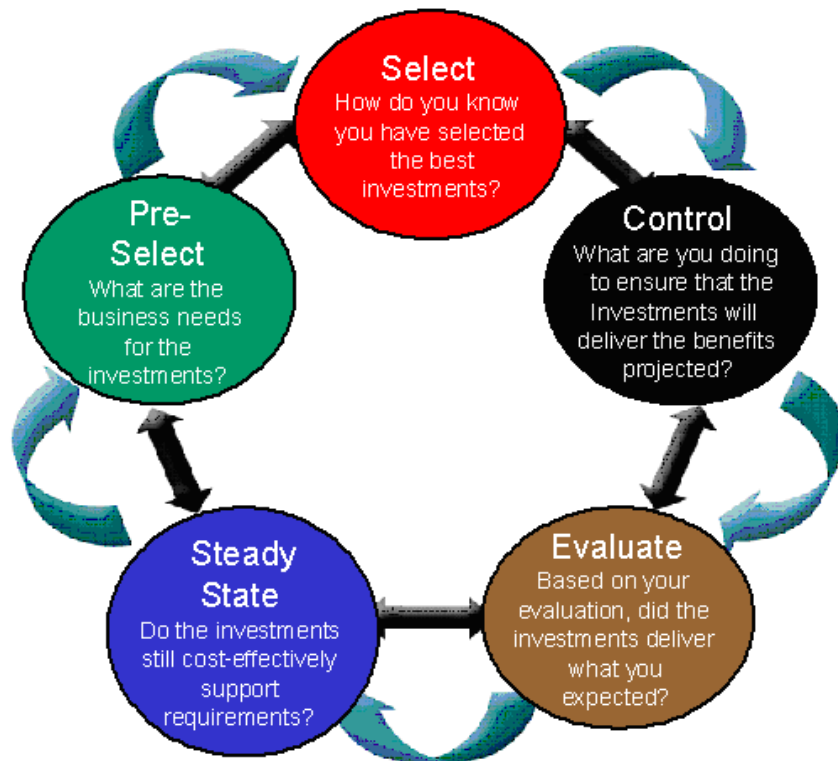
- Implement a customizable portal to allow Safety Board employees to have access to job specific applications on their “desktop” (***FY11***)

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| Focus Area 4: IT Capital Planning & Investment Control (CPIC) Process |
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Long Term Strategic Goal

The goal of Capital Planning is to improve the planning, execution and management of IT investments. The overall process for Capital Planning varies slightly from organization to organization but should include the five sequential phases represented in the diagram below.

NTSB Capital Planning Investment Control (CPIC) Process



Activities supporting the Capital Planning Focus Area are closely tied to activities in the Enterprise Architecture Focus Area. Capital Planning defines a process for reviewing, approving and monitoring investments. Enterprise Architecture ensures that the investments being made are not redundant and that they support mission goals.

The goal over the next few years is to introduce standard CPIC processes to the Safety Board on a scale that is consistent with the threshold of IT investment dollars. These changes will be

consistent with best practices and consistent with the GAO IT Investment Management (ITIM) Framework.

Investment Review Board (IRB): IT Portfolio Decision-Making

NTSB IT Investment Review Board (IRB): Collaborative IT Governance process

IT investments at the Safety Board are effectively managed but through processes that are outside standard CPIC processes. As the Safety Board progresses through the FY2007 – FY2012 Strategic Planning cycle the Board expects the IT Investment process to mature considerably. One of the steps in the CPIC process is to establish an IRB that makes “smarter” recommendations on the viability and prioritization of proposed initiatives; prevent duplicate investments; and leverage shared solutions, where appropriate. The IRB will ensure the NTSB IT Portfolio follows Management Objectives and Business Priorities criteria as listed.

Management Objectives - Criteria to evaluate investments in the CPIC Process.

- Implement legal and judicial mandates
- Respond to internal and executive mandates
- Obtain positive return on investments
- Improve performance (showing links to NTSB Strategic Plan and performance goals, avoiding duplication, managing risk, improving efficiency, achieving specific objectives)

Business Priorities - The second tier of management guidance for portfolio decisions

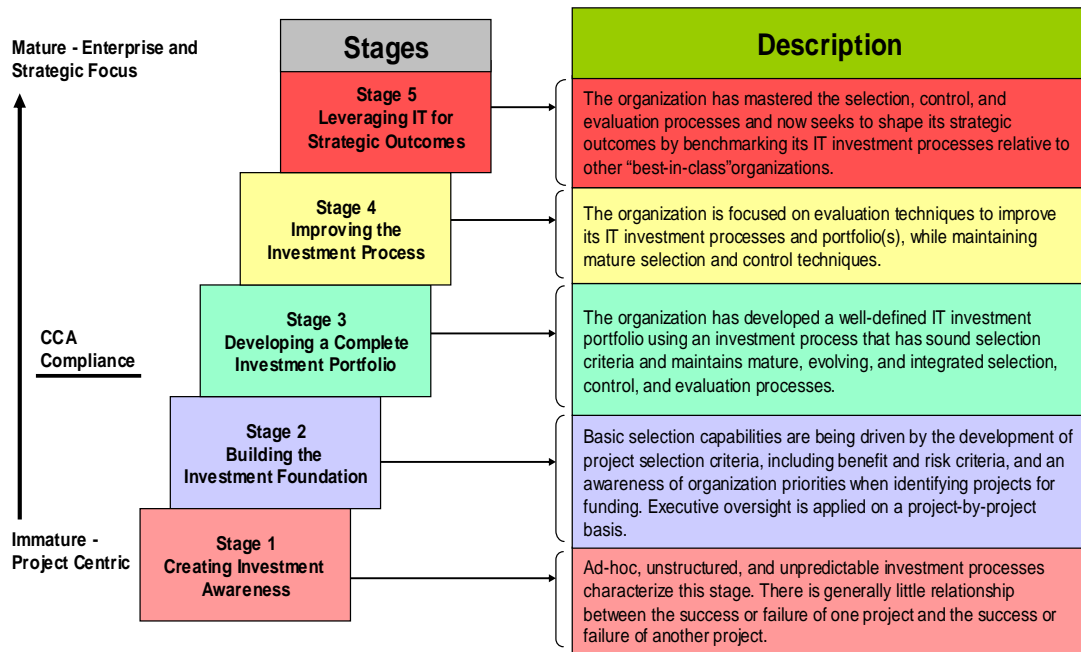
- Enterprise projects
- Projects on schedule, within costs, meeting expectations (evaluated through control reviews)
- Projects that are consistent with EA Transition Plan
- Management objectives and business priorities provide general guidance.

Process Maturity Model

Progress in the Capital Planning focus area will be tracked using the GAO IT Investment Management (ITIM) Framework.

See next page for GAO IT Investment Management (ITIM) Framework.

GAO's Investment Technology Investment Management (ITIM) Model (GAO-04-394G)



FY07 & FY08 Accomplishments

<http://inside/>

- Established basic business case template for IT Investments
- Developed business case for IT Infrastructure refreshment.
- Developed IT CPIC procedures in accordance with Government best practices and aligned to GAO's ITIM Model.
- Provided CFO with three year budget forecasts for TechRep and OCIO support requirements
- Established and maintain OCIO budget control sheets to track expenditures in a timely manner

FY09 –FY 12 Objectives

- Process all credit card purchases in compliance with NTSB regulations and timelines
- Process all PRs in compliance with NTSB regulations and timelines
- Phased approach to achieve CPIC process maturity during FY09 – FY12

- 90% of IT investments will be within 10% of the goals established in the cost, schedule, and performance baseline **(FY09)**
- Synchronize Capital Planning activities with those of Enterprise Architecture and Information Security
- 95% of IT investments will be reviewed and approved through the CPIC process
- 95% of IT investments will be within 10% of the goals established in the cost, schedule, and performance baseline **(FY10)**
- Achieve Level 3 of the GAO ITIM Maturity Model **(FY10)** *
- Achieve Level 4 of the GAO ITIM Maturity Model **(FY12)** *

* Based upon assessment by NTSB team comprised of employees outside OCIO

Stretch Objective(s)

- Reach GAO ITIM Maturity Model benchmarks ahead of schedule

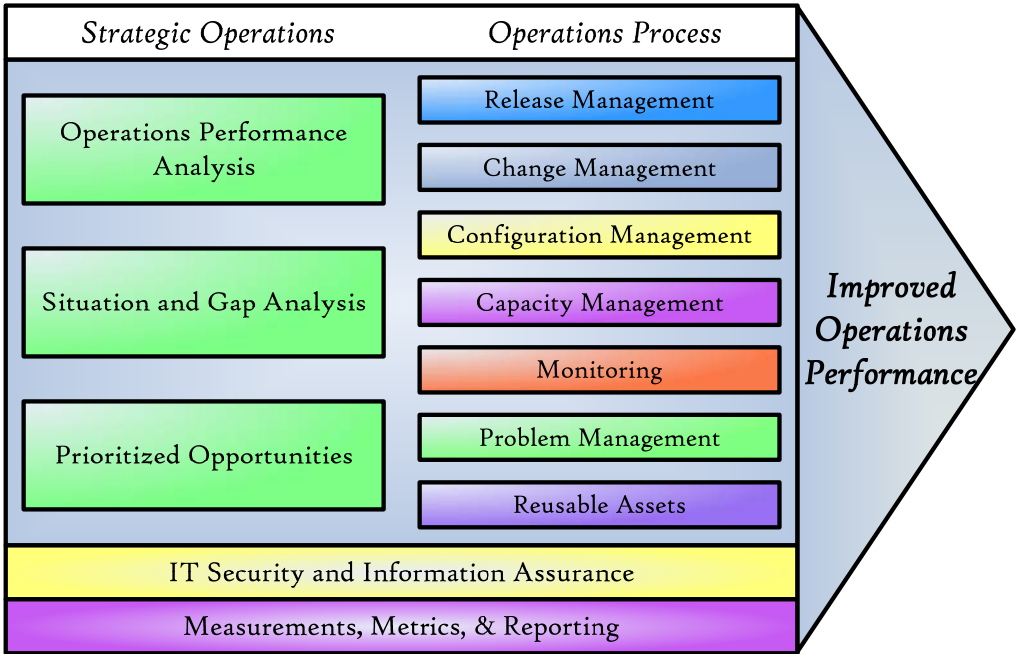
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| Focus Area 5: IT Infrastructure |
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The Safety Board acknowledges that standardizing operational capabilities, such as through standard desktop, laptop and server configurations and secure wireless communications, is an essential component for attaining the desired level of maturity in the focus area of IT Infrastructure. A mature IT Infrastructure serves as a platform for continued standardization, and provides the capability to measure overall service level improvement. In an effort to increase the maturity level of the Safety Board’s IT Infrastructure, the Office of the Chief Information Officer will continue to move toward infrastructure lifecycle planning, by factoring replacement costs into annual budgets as a continuing cost of doing business. The OCIO will also adopt the Information Technology Infrastructure Library (ITIL) framework to provide improved service quality to the Safety Board’s customers.

Long Term Strategic Goal

The goal of this focus area is to provide enhanced enterprise operations capabilities — improving the quality, accessibility, and sharing of data between NTSB and its customers. The overall goal of this focus area is to provide improved levels of service and security within a cost-effective, value-added operational structure.

Operations Performance Analysis will be applied to activities in this area. The analysis will identify opportunities for improvement. This approach will allow the Safety Board to provide continuous improvement in operations performance.



* ITIL was produced by the UK Office of Government Commerce.

Process Maturity Model/Performance Measure

The Safety Board will use the **Information Technology Infrastructure Library (ITIL)** to track progress in this strategic area and to provide quality IT service in the face of budgetary constraints, skill shortages, system complexity, rapid change, current and future customer requirements and growing customer expectations

FY07 & FY08 Accomplishments

- Asset Management
 - Installed LANDesk to support IT Asset Management program
- Customer Service
 - Installed Heat system to provide enterprise support for incident, service and change management processes
- Infrastructure Management:
 - Encrypted laptops used in Telework Pilot in compliance with OMB-06-16
 - Made encryption of laptops standard part of distribution process for new equipment (90% of mobile devices encrypted)
 - Evaluated requirements to create fully operable development and test environments to support enhanced ISDLC activities
- Continuity of Operations (COOP)
 - Evaluate COOP capabilities at Ashburn facility
 - Identify additional resource needs to provide email and blackberry connectivity should the Safety Board's Headquarters site become inoperable
- Telecommunications:
 - Upgraded of network capacity to field and headquarters locations
 - Implemented tools to monitor and enhance network utilization
 - Conducted small scale pilot efforts to support wireless communication
 - Met June 30, 2008 IPv6 requirements

FY09 –FY 12 Objectives

- Asset Management
 - Enhance IT Asset Management Program
- Customer Service
 - Develop FAQ page for common incidents and services
 - Initiate phased approach to reach ITIL process maturity FY09 – FY12
 - Service Level Agreements (SLAs) in place and met for 95% of cases for 20 most common incident and service request
 - SLAs in place for 100% of incident and service requests

- SLAs met 98% or more of the time, documented reasons for all cases where SLA is exceeded
 - Meet network SLA provisions
- Infrastructure Management:
 - Encrypt remaining 10% of unencrypted laptops in use at NTSB
 - Have standard configurations for laptops, desktops and servers
 - Implement FDCC across the Safety Board
 - Achieve state where IT equipment is operating at no more than 2 release behind on operating system software
 - Deploy Microsoft Operations Manager (MOM) to enhance infrastructure services and reduce costs
 - Implement fully operable development and test environments to support enhanced ISDLC activities
- Continuity of Operations (COOP)
 - Work with the Safety Board's senior management to prioritize IT resource requirements for COOP
 - Develop phased plan to upgrade NTSB IT COOP capabilities
 - Deliver enhanced COOP capability to plan
 - Institute tests of COOP capabilities in place (*annual*)
 - Update and integrate OCIO COOP Plan into overall NTSB COOP Plan (*annual*)
- Telecommunications:
 - Establish network SLAs
 - Provide enterprise solution to support secure wireless communication
 - Ensure agency-wide IPv6 capability (*FY10*)
 - Meet network SLA provisions (*annual*)

Stretch Objective(s)

- Have ITIL compliant IT infrastructure environment by FY10

Focus Area 6: Information and Records Management

NTSB recognizes the importance of sound information and records management practices and has developed goals to drive improvements in support of the Information Management areas which include: Records Management, Privacy, Information Quality, Knowledge Management and the Freedom of Information Act.

Long Term Strategic Goal

The goal of Information and Records Management is to provide the information needed to make thoughtful decisions, to inform our stakeholders and provide appropriate public access to information, and to protect sensitive information from inappropriate release.

Information and Records Management must support the Safety Board's workforce in managing an ever-increasing volume of information and provide for the retention of institutional knowledge (Knowledge Management) despite a growing numbers of retirees from Federal service. Information and Records Management that follows mandatory standards is a keystone for ensuring an effective and responsible knowledge-sharing environment and provides assurance to E-Government customers that the Safety Board is serious about its role of steward of their information.

The Safety Board also recognizes the need to provide timely and accurate information to a broad customer base through an effective Freedom of Information Act (FOIA) program. As a result the Safety Board has moved aggressively to bring its FOIA program into full compliance with the E-FOIA Act of 1996 and other Federal mandates. Specific metrics have been set over the life of this strategic plan to ensure that compliance is achieved and maintained.

Process Maturity Model/Performance Measure

Compliance with the Safety Board's FOIA improvement plan and the Department of Justice annual review will serve as the primary performance measures for the FOIA portion this strategic focus area. The periodic evaluation of FOIA programs across government, and NTSB's relative ranking in that evaluation, by the National Security Archive will serve as a secondary measure of the Safety Board's FOIA program. Compliance with NARA guidelines will serve as the performance measure for the Records Management portion of this strategic focus area.

FY07& FY08 Accomplishments

- Initiated use of FOIAExpress system in support of the Safety Board's FOIA program
- Set and published rates and exclusions for FOIA charges
- Executed all FY07 and FY08 milestones in the Safety Board's FOIA Improvement Plan which is designed to improve the overall effectiveness and efficiency of the FOIA program as well as customer service.
- Updated NTSB Internet FOIA site to comply with requirements of E-FOIA Act of 1996
- Eliminated backlog of simple FOIA requests

- Reduced FOIA backlog from 386 items at the start of FY2008 to 1 item at the end of FY2008
- Completed FOIA training for non-modal offices

FY09 –FY 12 Objectives

- Review the Safety Board’s FOIA Improvement Plan and adjust as required
- Eliminate FOIA backlog
- Complete NTSB Electronic Record Schedule
- Meet the E-Government Scorecard requirements for “Maintaining Green”:
 - Demonstrated for 90% of applicable systems a Privacy Impact Assessment has been conducted and publicly posted; and
 - Demonstrated for 90% of systems with personally identifiable information a system of records notice has been developed and published
- Complete Action items in FOIA Plan
- Gain NARA approval of NTSB Electronic Record Schedule
- Ensure compliance with Federal laws relating to Records Management, Privacy, Information/Data Quality, and FOIA (*annual*)
- Maintain backlog of FOIA requests of 50 or fewer cases for simple and complex requests (*annual FY09 and later*)
- Conduct FOIA training events to increase the visibility of the Safety Board’s FOIA program (*periodic*)

Stretch Objective(s)

- Achieve rating of “E-Star Agency” in FOIA by The National Security Archive. (*FY09*)

Focus Area 7: IT Workforce Management

A well-trained, experienced workforce is vital to providing excellence in IT services. Key focus areas include staffing, IT skills and competencies, role-based training, and succession planning. IT workforce management will leverage the Safety Board's Strategic Human Capital Plan (http://www.nts.gov/Abt_NTSB/Plans/Strategic_Human_Capital_Plan.pdf) and OPM's Workforce Planning Model to leverage the capabilities of this critical resource.

Long Term Strategic Goal

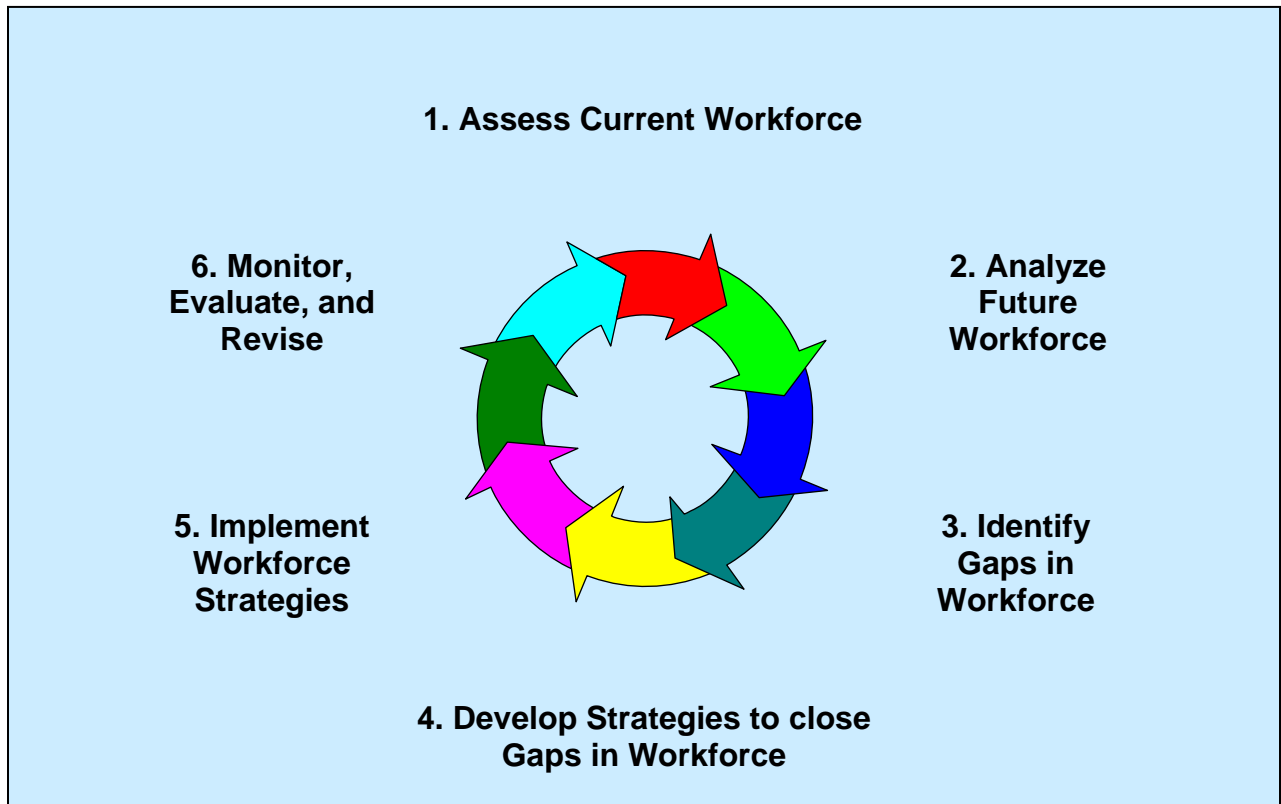
The goal of this focus area is to ensure the availability of IT human capital capable of meeting IT goals and NTSB mission challenges. This focus area includes:

- Improvement of IT workforce identification, assessment and reporting capabilities
- Ensuring that robust IT professional development programs are available; and
- Strengthening and leveraging IT project management skills;

Success in this area must also take into account changes to business processes, workloads and required skill sets that will result from implementation of enterprise initiatives, modernization blueprints and E-Government initiatives. As mentioned earlier the Safety Board has adopted OPM's Workforce Planning Model to ensure that IT human capital resources meet Safety Board mission requirements.

Process Model/Performance Measure

OPM Workforce Planning Model



The Office of the Chief Information Officer also embraces the Safety Board’s eight key human capital strategic objectives:

Strategic Goal 1, Objective 2
Maintain a competent and effective investigative workforce

- 1) Enhance the recruitment process for critical occupations to attract well-qualified applicants
- 2) Develop an NTSB Strategic Training Plan and ensure the workforce has access to continuing training opportunities
- 3) Provide for the continued recruitment and retention of a highly skilled diverse workforce

Strategic Goal 4, Objective 2
Align and improve the NTSB management team

- 4) Raise level of awareness of supervisory and management officials regarding leadership and management as perceived by the workforce
- 5) Strengthen the Performance Management System to align with organizational goals and objectives
- 6) Outline strategies for succession planning

Strategic Goal 4, Objective 3
Develop a Strategic Human Capital Plan

- 7) Develop an NTSB Strategic Human Capital Plan that aligns with the NTSB Strategic Plan
- 8) Establish a project plan to monitor and evaluate the execution of human capital strategic objectives

FY07 – FY08 Accomplishments

- Developed baseline IT Human Capital and Training Plans
- Completed IDPs for 100% of OCIO Staff
- Integrated a “Professional Development” rating element into performance plans for supervisors, managers and employees

FY09 –FY 12 Outcome Goals

- Refine and integrate baseline IT Human Capital and Training Plans with emerging agency-wide Human Capital and Training Plans (*annual*)
- Evaluate staff developmental progress against Human Capital and Training Plans (*annual*)

Stretch Goals

- No current stretch goal(s) for this focus area.

Section 5: Conclusion

The National Transportation Safety Board's IT Strategic Plan provides a strategic framework for the coordinated development, implementation, operation, and integration of information technology within the Board. The Safety Board's IT Strategy will enhance the efficiency and effectiveness of the organization as well as the support the successful delivery of Mission results.

Additionally, this document provides an organizational framework for the continued development of an architecture that can support more levels and types of electronic interactions. It outlines the Safety Board's IT Strategic Principles, establishes specific IT Strategic Goals with corresponding Focus Areas, and directs IT resources to utilize Maturity Models to measure performance. The Safety Board will strive for these collective approaches to improve performance, reduce inefficiency and duplication, and provide the support needed to achieve our important Mission.

The Safety Board will continue the migration of its IT portfolio toward integrated, agency-wide business processes and technologies to maximize the innovative and effective use of technology. Through leadership in customer service, strategic planning, intelligent management of IT resources and investments, and continual improvements in securing our IT environment, the Office of the CIO will provide high-speed reliable services that meet customer expectations and create savings.

As a key component in achieving the Safety Board's Mission, the Office of the Chief Information Officer will provide a viable means for ensuring that the Board receives the best value for its precious resources.

APPENDIX – A
SELECTED OUTCOME AND SUPPORTING OUTPUT AND ACTIVITY MEASURES

| Strategic Plan Reference | Measure Type | Measure Name | FY09 Target Level |
|--|--------------|---|---|
| Strategic Plan Goal #1 - Accomplish Objective Investigations of Transportation Accidents to Identify Issues and Actions that Improve Transportation Safety | Outcome | Improve overall OCIO workforce competencies through identification and remediation of skill gaps. | 100% identification and 50% closure |
| Performance Objective 1.2 - Maintain a Competent and Effective Workforce | Activity | Percent of employees receiving one or more Project Management courses during reporting period | 24-30% |
| | Activity | Percent of employees receiving one or more Information Technology Infrastructure Library (ITIL) courses during reporting period | 4-8% |
| | Output | Percent of identified employees receiving specialized IT Security awareness training | 100% |
| | Output | Percent of managers, supervisors and staff employees that have "Professional Development" has an element in their performance plans | 100% |
| Strategic Plan Goal #2 - Increase our Impact on the Safety of the Transportation System | Outcome | Enhance Public Outreach via the Safety Board's Public Website | Enhance content and design of the Safety Board's public web site and maintain a diverse audience base |
| Performance Objectives 2.2 - Conduct Outreach | Activity | Conduct survey of public web site visitors | Complete 90 day Random Survey |
| | Output | Implement a Frequently Asked Questions (FAQ) Page | FAQ Section Implementation |
| | Output | Implement a "Kids Page" | Kids Section Implementation |
| | Activity | Measure web site visitation points or origin | Maintenance of world-wide audience based upon web site statistics |
| Strategic Plan Goal #3 - Outstanding Stewardship of Resources | Outcome | Integration of Technology in Safety Board Business Processes | Implement Technology Products and Services Designed to Fully Leverage Technology Across Safety Board Business Processes |
| Performance Objective 3.3 — Fully Leverage Information Technology | Output | e-AMS Implementation | Implementation of e-ADMS to update ADMS |
| | Activity | Automate NTSB Business Processes | Continue SharePoint deployment and Initiate Deployment of CorasWorks |
| | Activity | Leverage e-Gov Solutions | Utilize regulations.gov to include stakeholders in NPRM activities and advertise Sunshine Act Meetings |
| SP Goal #4 - Organizational Excellence | Outcome | Continuous and sustained improvement in e-Gov scorecard items | Improved Scores on Required OMB Reports |
| Performance Objective 4.5 – President's Management Agenda E-Gov Scorecard Best Practice Areas | Output | Remediate All Significant Findings Identified by Outside Independent Audit Groups | Remediate 100% of Significant Findings |
| | Output | Submit Required Reports Under OCIO Purview to OMB | 100% of Required OMB Reports Submitted |
| SP Goal #4 - Organizational Excellence | Outcome | Maintain Compliance with FOIA Plan and Execute Improvements Based Upon Changes to FOIA Requirements | Remain in Compliance with NTSB FOIA Plan |
| Performance Objective 4.5 – President's Management Agenda E-Gov Scorecard Best Practice Areas | Output | Execute Against Existing FOIA Plan and File Appropriate Annual FOIA Reports to the Department of Justice | Remediate 100% of Significant Findings |
| | Activity | Modify Existing FOIA Program Artifacts to Comply with the Requirements of the OPEN Government Act of 2007 | Adopt 100% of OPEN Government Act of 2007 Requirements |