

Interim  
Investment  
Management  
Process  
Guidance

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DOT/OCIO

# Interim Investment Management Guidance

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### 2 Executive Summary

The Department of Transportation (DOT) budgets nearly \$3 billion annually for information technology (IT) investments. The efficient and effective management of IT resources requires the Department implement a common approach to investment management and procurement to ensure taxpayer dollars are wisely spent. Doing so will ensure DOT's mission priorities and necessary mandates are affectively met, including the Clinger-Cohen Act, Government Performance and Results Act, Federal Acquisition Streamlining Act, and the Paperwork Reduction Act.

This document provides the initial implementation guidance to strategically transition the Department from a fragmented IT investment management approach to a new, more integrated and streamlined investment review and governance process based on Capital Planning and Investment Control (CPIC) methodology. The guidance leverages DOT policies and procedures put in place for IT governance, Enterprise Architecture (EA), strategic planning, cybersecurity, as well as compliance with Office of Management and Budget (OMB) Memorandums and Circulars A-11, A-123, A-130, and the 25-Point Plan for IT Reform. Additionally, it establishes a process for investment review by the overarching senior governance body, the Investment Review Board (IRB), co-chaired by the Deputy Secretary and DOT Chief Information Officer (CIO), supported by senior members of the Procurement, Budget, and Operating Administration communities and integral working groups.

The new investment management process centers on a data-driven, portfolio-based approach that will allow for an expansive and thorough look across the enterprise of DOT IT portfolios. This will allow the Department to make evidence-based decisions on pre-selection, selection, control, and evaluation of new and ongoing IT investments. It will also enable the elimination of legacy systems that are no longer required, enhance interoperability, eradicate redundancy, and leverage enterprise opportunities.

The Office of the Chief Information Officer (OCIO) will implement its investment management process in three phases. The first phase will focus on data collection calls, initial portfolio assessments, crafting visualization tools, and cleansing authoritative databases to ensure the accuracy, relevancy, and completeness of data used by the DOT IRB to approve portfolios. In phase two, the OCIO will define criteria for data analysis used to rationalize portfolios and further determine data requirements to inform decisions. Phase three will focus on optimizing the portfolios, maturing EA, and implementing refined process guidance based on strategic priorities, lessons learned, and/or legislative changes.

This document provides the Department with guidance during this transition period to a more rigorous investment management process. It is effective immediately and applies to all new and ongoing IT investments across DOT regardless of scope or funding type. It affords the Department the best opportunity to make defensible determinations on IT investments that will maximize the use of vital resources in a fiscally strained environment.

## 3 Purpose and Scope

### 3.1 Purpose

This guidance defines the DOT's investment management process and outlines steps necessary to implement IRB governance and oversight for the strategic management of DOT's IT resources. The document describes the roles and responsibilities of the DOT IRB and its supporting boards; specifically, it serves as the interim authoritative guidance document that will be used to transition to a standardized IT governance methodology, based on CPIC principles and in accordance with [DOT Order 1351.39](#).

Additionally, this document serves to guide DOT's efforts toward a common approach to ensure compliance with DOT Enterprise Architecture<sup>1</sup> and OMB policies/guidance.

This document will describe:

- DOT's shift to a data-driven, portfolio-based investment management process that groups investments into portfolios by EA segments (i.e., "segment portfolios") and groups EA segments by segment type into domains;
- The evaluation methodology and criteria used by the DOT IRB to evaluate, select, or re-select investments within segment portfolios;
- The integration of IT governance, budget, and acquisition; and
- The CPIC process used to analyze new and ongoing investment proposals.

### 3.2 Scope

This guidance applies to all DOT Secretarial Offices and Operating Administrations<sup>2</sup> for the procurement and management of all IT resources. This guidance is intended to complement policies and orders provided for the planning, budgeting, procurement, and lifecycle management of IT resources, e.g., the Transportation Acquisition Regulation, Transportation Acquisition Manual, and the Acquisition Management System, the Integrated Program Planning and Management (IPPM) Practitioner's Guide,<sup>3</sup> and federal mandates such as the Federal Information Security Management Act of 2002 (FISMA). It does, however, supersede the IPPM Governance Guide. The investment management guidance is effective immediately and will be in effect until superseded.

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<sup>1</sup>See DOT Order 1351.27 (Enterprise Architecture [EA] Policy) dated April 2013:

<https://one.dot.gov/ost/s80/S81/S81new/CIOP/Enterprise%20Architecture.pdf>

<sup>2</sup> All recommendations and requirements contained in this guidance are applicable to all Components but only to the extent that such requirements and recommendations are consistent with the expressed language contained in 49 U.S.C 106, 40110, 40121

<sup>3</sup><http://our.dot.gov/team/ippm/IPPM%20Documents/DOT%20IPPM%20Practitioners%20Guide.pdf>

## 4 Governance

Within the investment management process, the Department has established an integrated governance body, the IRB, led by the Deputy Secretary of Transportation and DOT CIO. The investment management governance process includes key supporting groups chartered by the IRB to assist in enhancing the Department's ability to better streamline investments, leverage existing capabilities, and meet strategic priorities in a more efficient manner.

**Table 1** outlines the IRBs membership; other stakeholders may be included in this governance body at the Chair's discretion.

IRB Members	
Chair	Deputy Secretary of Transportation
Co-Chair	DOT Chief Information Officer (CIO)
Principal Members	DOT Chief Financial Officer (CFO)
	Senior Procurement Executive (SPE)
	Under Secretary for Policy
	Assistant Secretary for Administration <sup>4</sup>
	Operating Administrator for FAA
	Operating Administrator for FHWA
	Operating Administrator for FMCSA
	Operating Administrator for FRA
	Operating Administrator for FTA
	Operating Administrator for MARAD
	Operating Administrator for NHTSA
	Operating Administrator for PHMSA
	Operating Administrator for SLSDC
Associate Members	Director of Public Affairs
	Deputy General Counsel

**Table 1: IRB Members**

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<sup>4</sup> To include the Assistant Secretary for Research & Technology.

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The IT governance process workflow outlined in Figure 1 supports this governance structure by enabling collaboration and communication throughout all levels of the framework. The process workflow shows that the IRB will be informed by recommendations from the Investment Working Group (IWG) based on assessments, rationalization, and analysis efforts conducted by IRB supporting boards, which include the Enterprise Architecture Board (EAB), Investment Analysis Team (IAT), CIO Council (CIOC), and Acquisition Strategy Review Board (ASRB). Additionally, Figure 1 highlights entities that externally support the governance process, such as the OA IRBs, the CPIC tool, and budget exhibits.

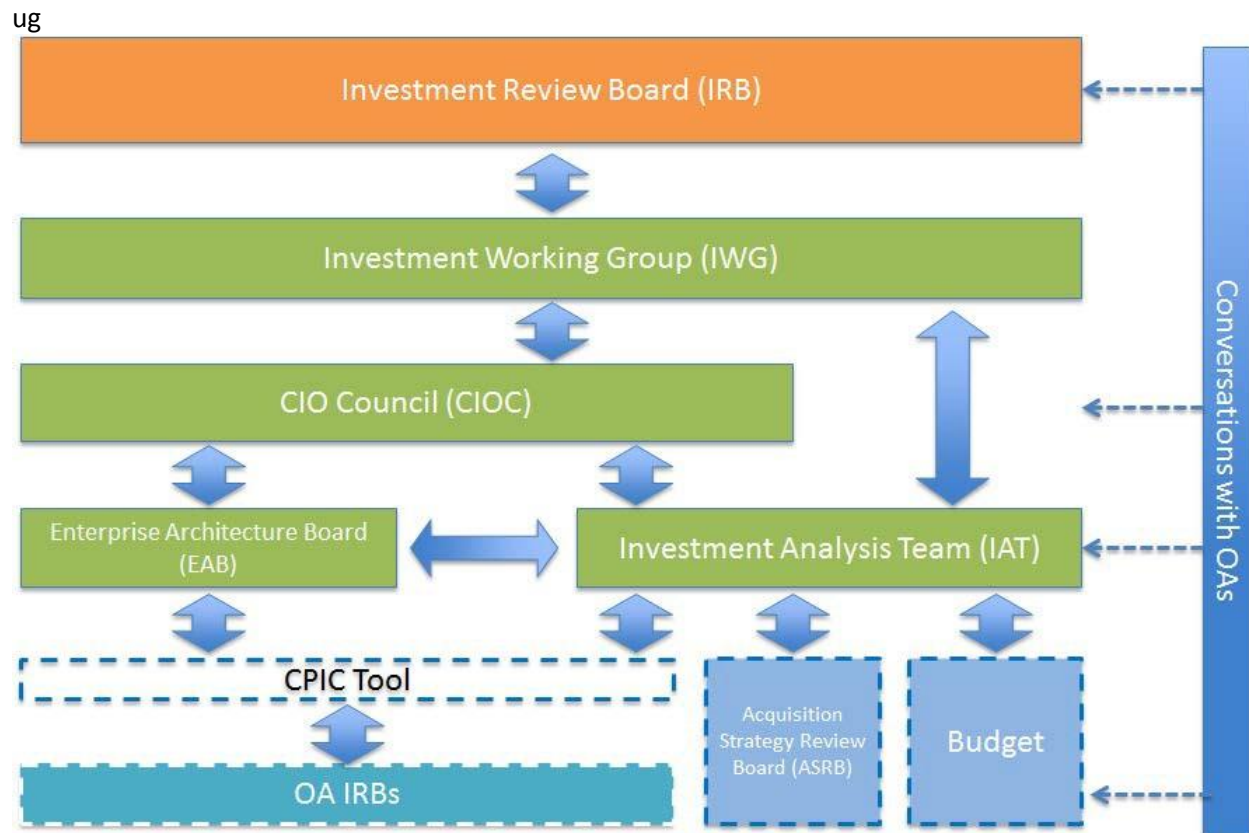


Figure 1: IT Governance Process Workflow

### 5 Roles and Responsibilities

This section describes the roles and responsibilities of the IRB and its primary supporting groups.

#### 5.1 Investment Review Board (IRB)

The IRB is the DOT's senior executive body charged with ensuring that the Department's IT investments align with DOT's strategic priorities, objectives, and OA operational missions. The IRB approves segment portfolios via decisions codified in Investment Decision Recommendations (IDR). Additionally, the IRB approves the DOT Enterprise Architecture and any segment architecture recommendations from the EA Board and CIO Council. More detailed information on IRB roles and responsibilities can be found in the [Investment Review Board Charter](#).

#### 5.2 Investment Working Group (IWG)

The IWG is the IRB's principal working group responsible for assisting the IRB by providing advice, guidance, and cross-functional oversight of the Department's IT initiatives, while assisting Operating Administrations in improving operating efficiency by best leveraging IT to support the DOT's mission. Using analysis developed by supporting groups, the IWG makes recommendations to the IRB for each segment portfolio approval request prior to each meeting. For additional information, please see the [Investment Working Group Charter](#).

Members of the IWG include:

- DOT Deputy Assistant Secretary for Budget and Programs
- DOT Deputy Chief Information Officer (CIO)
- DOT Senior Procurement Executive (SPE) designee
- Director, Departmental Office of Human Resource Management

#### 5.3 CIO Council (CIOC)

The CIOC reviews and discusses IT portfolio status and requests and provides leadership and direction for Enterprise Architecture Board (EAB) activities. The CIOC also oversees EAB recommendations on the EA roadmap, target architecture/transition roadmap and segment alignment plans, and submits its analysis and recommendations to the IWG for pre-coordination. Additionally, the CIOC oversees IT infrastructure requirements and ensures the DOT's infrastructure supports emerging business requirements and is responsive to changing technology trends (e.g., mobility, cloud computing, digital services, Internet Protocol version 6, etc.). Finally, the CIOC collaborates on identifying and approving



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opportunities for shared services and identifying other IT-related efficiencies across the Department.<sup>5</sup> For additional information, please see the [CIO Council Charter](#).

### 5.4 Enterprise Architecture Board (EAB)

The DOT EAB, led by the DOT Chief Architect, is a subordinate group to the IRB. In that role, the EAB provides architecture support to DOT OAs by creating investment awareness for data-driven investment decisions. The EAB also reviews new and legacy IT investments to ensure alignment with DOT mission capabilities and strategic priorities of the Department, and performs the analysis required to identify opportunities for shared services and collaboration. The EAB also maintains the DOT EA and establishes its technical and data standards. Additionally, the EAB reviews DOT segment portfolios to determine whether they should be adjusted or revised, groups segments by type (domains), and aids in eliminating IT redundancy and inefficiencies within portfolios. The EAB also formally reviews and approves EA compliance of investments and documents its decisions and recommendations. EAB preliminary segment recommendations are vetted by the CIOC. Final EAB recommendations are communicated to the CIOC, the IWG, and the IRB using Investment Management Process workflow. For additional information, please see the [EAB Charter](#).

### 5.5 Acquisition Strategy Review Board (ASRB)/Joint Resources Council (JRC)

The ASRB is an integral part of the investment management process for qualifying procurement activities within the Department. The ASRB assists in the investment management process through its ongoing management direction of the procurement activities of the Department. The ASRB ensures that Earned Value Management (EVM) is properly included in new contracts for major IT investments. The FAA's JRC will also inform IRB decisions for procurements unique to the FAA. Planned investment-level procurements that meet these groups' respective criteria must go through the acquisition review process for approval before they can be formally acquired.

### 5.6 Investment Analysis Team (IAT)

The IAT is comprised of analysts from the OCIO Office of the Associate CIO for IT Policy Oversight (OST S-81) IT Governance Team, and works with the OA CPIC coordinators and other OA representatives to conduct analytical reviews of all IT portfolios. The IAT will present these findings for the IRB and supporting boards to enable data-driven decisions. The IAT will use cost and schedule baseline data, as well as performance metrics and risk assessments provided by the OAs to generate investment analysis and recommendations for the IRB. Preliminary findings will be shared with applicable OAs via Issue Papers to help resolve or clarify perceived discrepancies prior to submission to the IRB supporting boards. Any unresolved issues will be presented to the IRB and applicable supporting boards.

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<sup>5</sup> Shared service opportunities include commodity IT, as described in page 2 of OMB Memorandum M11-29: <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-29.pdf>.

### 5.7 OA IRBs

Modal IRBs are responsible for executing OMB mandated Select-Control-Evaluate processes at the modal level. OA IRBs are responsible for conducting periodic evaluations of IT investments and assessing their ability to effectively meet business and mission needs. OA IRBs support the DOT investment management process by thoroughly evaluating cost, schedule, and performance parameters as well as managing program risks. Investments must be approved by OA IRBs before submission to the DOT IRB.

### 5.8 Functional Sponsors

Functional sponsors are business segment owners who are responsible for defining the target environment, business outcomes, priorities, standards, and measures for the segment (e.g. Human Resource Management, Financial Management, Acquisition, etc.). Functional sponsors will work with OAs and IRB supporting boards to develop the strategic vision for executing the business line function and provide high-level management planning for applicable IT segments used to inform the EA, as well as the OAs' business strategies. As part of this duty functional sponsors shall:

- Develop the segment's target architecture and ensure the development of transition plans to reach that goal
- Review and make recommendations on IT investments within their segment
- Ensure that IT investments within their segments are consistent with the goals and objectives of the DOT as outlined in the DOT IRM/Strategic Plans
- Establish performance and capability requirements / measures to ensure achieve expected outcomes

Functional sponsors shall be appointed by the IRB as deemed appropriate. At this time functional sponsors will be designated for Human Resources, Financial Management and Procurement segments.

### 6 Investment Management Process

#### 6.1 Overview

The investment management process is a data-driven process rooted in CPIC methodology, focused on evaluating, controlling, and selecting investment portfolios via quarterly IRB portfolio reviews. Within this process, senior DOT and OA leaders will provide oversight of the Department's portfolio of investments using a framework that integrates strategic governance, budgeting, acquisition, EA, and capital planning for the effective and efficient management of IT resources.

To begin the process, the OCIO will send notifications to the OA CPIC Coordinators confirming the segment(s) or domain(s) under review and setting a date for data and document submission. These notifications will follow the regular IRB schedule. The OAs will then submit a Portfolio Approval Request (PAR, sample found in Appendix D) and all required data for the segments under review using the DOT enterprise tool, the Corporate Investment Management System (CIMS) (previously called Oracle Primavera Portfolio Management, or OPPM). OAs will fill out one PAR for all investments under review during the relevant quarter, categorized by segment. Receipt of the PAR and associated data will constitute the end of the data submission process and signal the beginning of analysis by the IRB support boards.

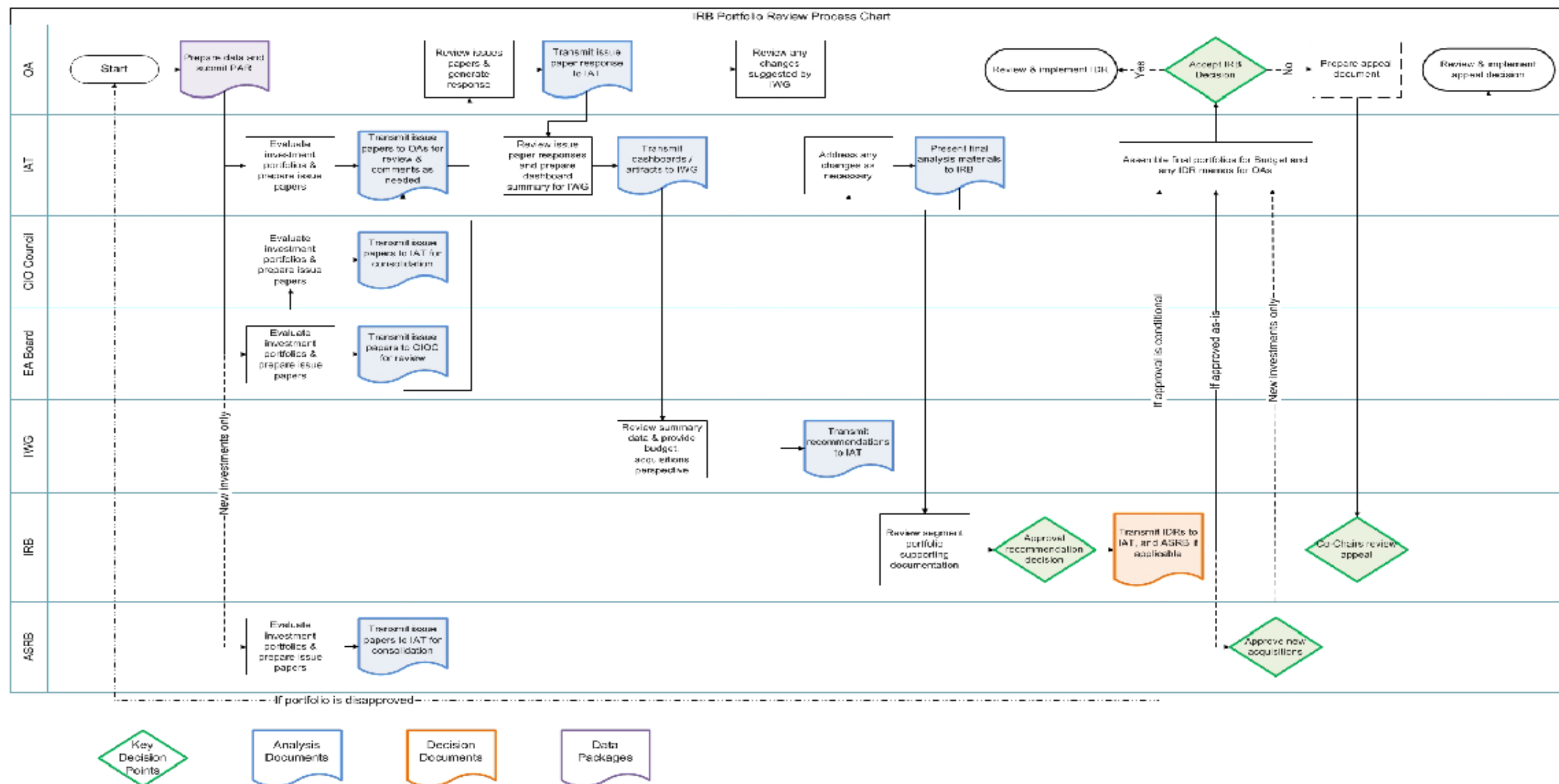
This analysis process leverages investment data, IPPM artifacts,<sup>6</sup> and other program management information that will be highlighted via visualization dashboards and automated tools to enable informed strategic planning and enhanced data-driven decision making. Through phased reviews, segment portfolios are presented for IRB review and approval using established criteria (see section 6.3.2). The IRB will communicate approvals to OAs via Investment Decision Review (IDR) documents.<sup>7</sup> Once the OA receives the IDR they will be instructed to update the Department's CIMS tool to reflect the IRB decision. Using this information, CIMS will generate a draft Exhibit 53 report, which will be transmitted to Budget. This ends the IRB process.

Figure 2 depicts a high-level overview of the investment management process.

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<sup>6</sup> For more information on the DOT IPPM process, see Appendix C: DOT's Integrated Program Planning and Management (IPPM) Process.

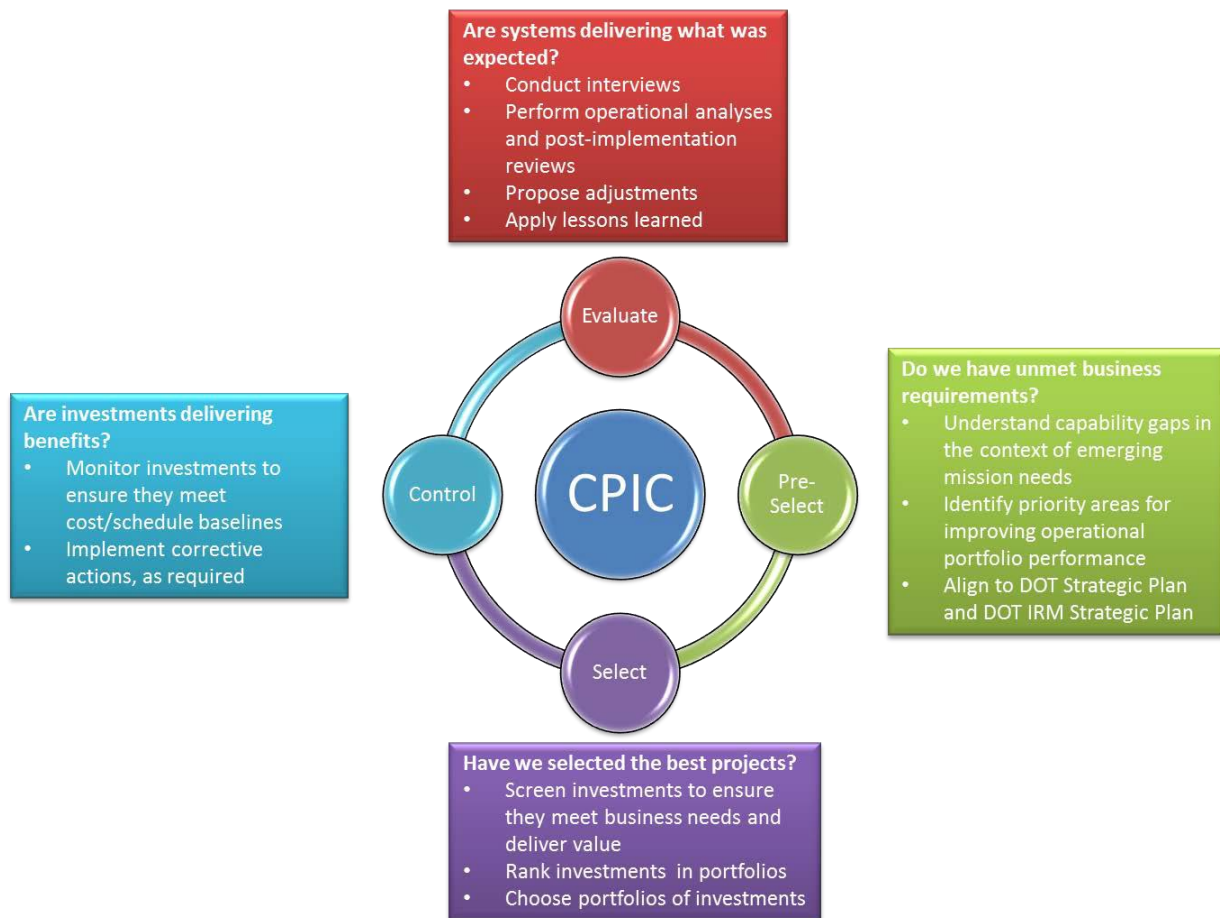
<sup>7</sup> See Appendix F: Investment Decision Recommendation Sample



**Figure 2: DOT Investment Management Process**

## 6.2 CPIC Process

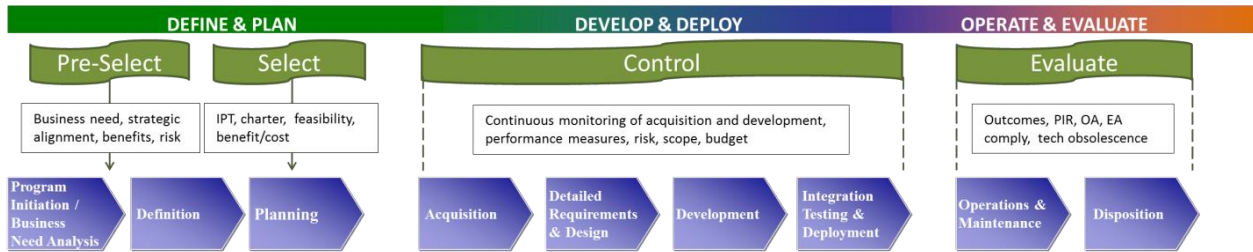
The CPIC process shown in Figure 3 is a structured, integrated approach to managing IT investments. CPIC will be used by the DOT IRB to monitor and analyze ongoing investments, as well as to provide context for the evaluation of new investment proposals to ensure each investment's objective(s) supports the business and mission needs of the agency. DOT will use the three distinct phases of CPIC and add a fourth (Pre-Select) to inform determinations on investment funding. The IRB will leverage the Department's IPPM framework when considering new investment proposals in the Pre-Select and Select phases of CPIC. The following phases are described below: Evaluation, Pre-Select, Select, and Control.



**Figure 3: Overview of the CPIC Process**

The chart below provides an overview of the IPPM process, its alignment to CPIC phases and the objectives for each process phase:

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**Figure 4: DOT IPPM Process Mapped to CPIC Phases**

The [IPPM processes](#) provide a basis for key decision points involving the IRB, as well as artifacts required throughout the investment management process. The IRB will make portfolio decisions at each IRB meeting; the IPPM phase of an investment will generally dictate the type of analysis conducted. However, the IPPM process itself is primarily used by program or project managers to manage their investments. The primary distinction between CPIC and IPPM is that IPPM is focused at the level of *investment* control, and the IRB will use CPIC, which is focused at the level of *portfolio* control. The S-81 IT Governance Section implements the DOT CPIC process under the direction of the CIO.

### 6.2.1 Evaluate Phase

The Evaluate phase is intended to provide a snapshot of a portfolio's performance. DOT-established portfolio evaluation criteria will be coupled with existing Departmental and OMB policies to identify performance gaps, redundancies, and inefficiencies across the enterprise. This will also allow the Department to determine whether or not investments are meeting their business objectives. For ongoing investments, the Evaluate phase begins once an implementation has been completed – or after a portion of intended capability has been implemented. The Post Implementation Review (PIR) for recently implemented investments is conducted during this phase, and generally takes place within 12 months of implementation. The Evaluate phase analysis feeds information to the Pre-Select phase.

### 6.2.2 Pre-Select Phase

The Pre-Select phase provides a method to assess new IT solution proposals. Any investments in the Pre-Select phase will be expected to follow the DOT IPPM process. The IRB will ultimately approve or disapprove new business proposals based on established criteria outlined in section 6.3.2 of this guidance. During the Pre-Select phase, the IRB will ensure that proposed IT investments support the Department's strategic goals and business needs. The analysis used here will assist in informing the Select phase.

### 6.2.3 Select Phase

The IRB reviews new and re-selected ongoing investments in this phase. The Select phase is used to further assess the costs and benefits of all proposed investments in order to select the optimal portfolio structure required to meet mission priorities, capabilities, and objectives. The IRB considers business needs, strategy, EA integration and compliance, efficiencies, return on investment projections, IPPM documentation, and other factors for new and ongoing investments. Additionally, all major IT investments must implement EVM according to the Department's EVM [policy](#) and [guidance](#). At the end of the Select phase the IRB will issue IDRs to Budget and the OAs for segment portfolios.

### 6.2.4 Control Phase

The IRB uses the Control phase to ensure IT initiatives are conducted in a disciplined, well-managed, and consistent manner within DOT through timely oversight, quality control, and executive-level review of investments within a portfolio segment. The DOT IRB executes this phase using a cradle-to-grave approach, measuring and evaluating cost, schedule, performance, and risk data of ongoing investments throughout their lifecycle against established baselines and projected outcomes. During the Control Phase, the IRB examines performance of the entire DOT portfolio (by segment) to ensure the Department is maximizing value, mitigating risks, ensuring successful results, and taking corrective action where necessary. Investments with cost or schedule variances that indicate negative trends may be proposed as TechStat candidates by the IRB.

### 6.3 Portfolio Review Process

The investment management process will use an IRB process workflow that allows for holistic review of the three DOT IT portfolio domains. Each domain will be the focus of a quarterly portfolio review assessment by the IRB supporting boards, which will analyze the domain's segment portfolios using CPIC methodology and established criteria (see section 6.3.2).

The review process begins with OAs performing local reviews of their investments. Following these reviews, OAs will enter portfolio data submissions into the CPIC tool, Oracle Primavera Portfolio Management (CIMS), which will ultimately become the authoritative data source of information used by the IRB. Each OA portfolio submission will be accompanied by a CIO/Functional Sponsor Portfolio Approval Request (PAR) memo (see Appendix D: Sample OA CIO Portfolio Approval Request (PAR) ), which will list the portfolio's content of investments and the dollar amount of each investment, and include a declaration that these investments are compliant with the Clinger-Cohen Act. If a segment (e.g. Human Resources or Financial Management) has a Functional Sponsor, they will send the PAR; for all other segments, the OA CIOs will fill out PARs for their investments within the segment. Portfolio submissions must be received no later than 30 days prior to the scheduled IRB date to allow for preliminary review and analysis.

#### 6.3.1 OA Review

OA-level reviews should be based on data-driven evaluation criteria similar to those used during DOT IRB reviews. Additionally, reviews should be integrated with the Department's quarterly review schedule to ensure investments within the portfolios are:

- Appropriately aligned to the Enterprise Architecture;
- Compliant with DOT and OMB policies, procedures, and applicable statutes; and
- Prepared in time for presentation to the IRB.

A review of OA investments should include, but is not limited to:

- Consideration of project durations (should allow for capability delivery within 180 days where practical);
- Relevancy of proposed solutions;



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- Cost and schedule deviations that may require course correction or risk mitigation strategies;
- Status of EVM for major investments as appropriate; and
- Accuracy of data in authoritative repositories.

These key activities, among others, lead to the identification of new business needs and performance gaps, and help inform investment decisions early in the budget cycle. OAs and functional sponsors are encouraged to present their investment proposals to the IRB supporting boards using sample templates outlined in Appendix D: Sample OA CIO Portfolio Approval Request (PAR) and Appendix G: Roadmap to Target Environment (Transition Diagram) Template. These templates should assist OAs with reporting requirements for IRB review.

### 6.3.2 Evaluation Criteria

The IRB supporting groups will evaluate segment portfolios using CPIC evaluation criteria, leveraging OA IRB portfolio information and data artifacts.<sup>8</sup> Supporting groups will summarize their findings based on the established evaluation criteria. These summaries will be communicated to the OAs via Issue Papers and presented to the IRB via executive-level IRB visualization dashboards that depict the overall health of each portfolio.

The evaluation criteria include, but are not limited to:

- Review of baseline performance measures (cost, schedule, performance and risk management, EVM documentation for major investments);
- Alignment to and compliance to the DOT EA;
- Compliance with OMB / DOT policy;
- Compliance with GAO or IG findings/recommendations;
- Benefits related to value engineering process;
- Cost savings and avoidance data;
- Cybersecurity compliance with Cross Agency Performance (CAP) goals;
- Time to delivery of capabilities; and
- Assessment of performance metrics.

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<sup>8</sup> The data and evaluation criteria analyzed in the investment management process are compliant with OMB's PortfolioStat exercise to strengthen IT portfolio governance under M-12-10 and M-13-09. Specifically, DOT's investment management process employs baseline analysis, evidence-based reviews, action plan formulation and implementation, and lessons learned. The process utilizes data from OMB's reporting requirements, such as the IRM Strategic Plan, Enterprise Roadmap, and Integrated Data Collection, to inform analysis of strategic alignment, capabilities and duplication in the architecture, and commodity IT dollar amounts, among others. For detailed information on OMB requirements, see [http://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-10\\_1.pdf](http://www.whitehouse.gov/sites/default/files/omb/memoranda/2012/m-12-10_1.pdf) and <http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-09.pdf>.



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For a more detailed explanation of evaluation criteria, please see the DOT Investment Management Process Standard Operating Procedure (SOP) document.<sup>9</sup>

### 6.3.3 Data

The investment management process relies heavily on the relevancy and accuracy of data to make informed decisions. As such, portfolio information contained in data repositories must be up-to-date, accurate, relevant, and readily available to support the process. IRB supporting groups will examine available program data to evaluate portfolio health. Much of the required data may currently reside in established repositories, artifacts, or reporting templates. The IRB supporting groups will leverage as much existing data as possible. Data that is not readily available or accessible to IRB supporting groups will be gathered via data calls. Table 3 provides an overview of some evaluation criteria that may be used for segment portfolio reviews, the data used for the evaluation, and typical program documentation which may contain such data.

<b>Evaluation Criteria</b>	<b>Data</b>	<b>Recommended Documentation</b>
Cost/Schedule	Lifecycle cost baseline by year with DME/O&M breakout Actual cost by year with DME/O&M breakout Integrated schedule Cost/schedule performance Cost savings/avoidance	Major IT Business Case (OMB Exhibit 300A) Agency IT Portfolio Summary (OMB Exhibit 53A) Major IT Business Case Detail (OMB Exhibit 300B) Earned Value Management reports Cost savings/avoidance reports/supporting analysis
Program Management	Contract structure Business need justification Alternatives considered Program management data Operational data Performance goals/actuals	Acquisition Plan Inspector General/GAO findings Benefit Cost Analysis Alternatives Analysis Program Management Plan and reports Post Implementation Review Operational Analysis OCIO-designated performance metric template Major IT Business Case Detail (OMB Exhibit 300B)
Risk	Project/operational risks Mitigation strategies & status Security risks	Risk Management Plan Risk Register IT Dashboard CIO Evaluations (major investments only) Security plan Open Cybersecurity POAMs
EA Compliance	EA mapping System concept, configuration, interfaces & interoperability Functional requirements	Concept of Operations Concept Overview Diagram Configuration Management Plan Functional Requirements Document

<sup>9</sup> Located on the [DOT Investment Management Process SharePoint site](http://our.dot.gov/team/itgovernance/SitePages/Home.aspx):  
<http://our.dot.gov/team/itgovernance/SitePages/Home.aspx>

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	Security controls Hardware, software, data centers, and networks used by system Data definitions/modeling EA target and transition plan data	High-Level Business Process Diagram EA Impact Assessment System/Application Interface Diagram Security Controls List Verification Requirements Traceability Matrix Technology Standards List High-Level Network Diagram Logical Data Model Network Diagram (detailed) EA Target and Transition Plan Review Report
Capability Measurement Area	Investment Purpose Unique Capabilities	Concept Overview Diagram High Level Process Diagram Roadmap to Target Environment (Transition Plan )

**Table 2: Recommended Documentation**

### 6.3.4 Issue Papers

The investment management process works as a bi-directional and collaborative governance process between the OAs and the Office of the Secretary for Transportation (OST) staff. During the portfolio review process, Issues Papers (see Appendix E: Issue Paper Sample) developed by IRB supporting boards will be used to identify key issues or concerns within a portfolio that should inform the IRB's decision. Those issues or concerns will be discussed and, to the maximum extent possible, adjudicated between the appropriate reviewers and the OAs.

Issue Papers will generally focus on details pertaining to specific investments within the portfolio. To leverage transparency in the process, OAs will have access to all findings/issues throughout the entire process workflow. If the OA confirms that there is an anticipated schedule slip or cost overrun, for example, this would be included in the report and presentation to the IRB. Issues that are resolved prior to the IRB meeting will not be included in the final Issue Paper. All issue papers and any issue resolutions for each IRB will be documented on the [DOT Investment Management Process](http://our.dot.gov/team/itgovernance/SitePages/Home.aspx)<sup>10</sup> SharePoint site.

### 6.3.5 Presentation

IT investments will be presented to the IRB as part of segment portfolios that align to one of three DOT EA domains. Overall analysis of a portfolio's health, key issues, and recommendations will be presented to the IRB in the form of visualization dashboards and/or briefings. OA functional sponsors may be present during the briefing in the case that any questions or need for further data arise related to their investments within a given portfolio.

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<sup>10</sup> <http://our.dot.gov/team/itgovernance/SitePages/Home.aspx>

### 6.3.6 Decisions

IRB decisions will be rendered based on data-driven analysis as a result of assessment and recommendations from OA IRB reviews and DOT IRB supporting group analysis. The following are potential decision outcomes for a portfolio approval request:

- **Approval:** The portfolio is approved in whole and recommended for integration into the budget cycle.
- **Approval with conditions:** The portfolio is approved in whole or in part with conditions levied by the IRB. Conditions can include, but are not limited to the following:
  - Partial approval, e.g. investment(s) 1, 6 and 12 are not approved
  - Portfolio is approved pending submission of additional documentation on one or more investments
- **Disapproved:** The IRB may identify deficiencies in the segment portfolio that may warrant disapproval or further portfolio assessment before it can recommend for approval and integration into the budget cycle.

The IRB will document the results of its decision(s) in an IDR which will be transmitted to the functional sponsor or applicable OAs. The IRB's decisions will also be communicated to the Budget office via the submission of an IDR from each IRB meeting.

OAs may appeal an IDR that disapproves or conditionally approves a PAR. Upon receipt of the IDR, an OA has 5 business days to prepare and submit an appeal. The appeals package must include a memorandum signed by the OA CIO along with supporting documents to justify the appeal. The appeal should include a rationale and the specific elements of the IDR that are being appealed. The IRB Co-Chairs will review the appeal and will render a final decision within 15 business days of receipt of an appeal.

## 6.4 Additional Investment Management Activities

### 6.4.1 "Virtual" IRB Process

Given the limited time available for the IRB to review and approve all segments within a domain, it is not always feasible for the IRB to review every segment during the quarterly meeting. In order to alleviate this time burden, if the IRB's supporting groups do not find any issues which require IRB attention in a segment, or if these issues are comparatively minor, the IWG may recommend that the IRB accept the segment as-is or with minor changes which do not require formal discussion. The IWG will issue this recommendation in coordination with the appropriate OA representatives. The IRB will then approve these segments during its normally scheduled meeting.

### 6.4.2 Ad-Hoc Investment Review Process

In the event that an investment requires approval outside of the normal IRB portfolio review cycle, such an investment may be considered for an ad-hoc review by the IRB. These reviews take place at the Co-Chairs' discretion and may occur at any regularly scheduled meeting during the year. Ad-hoc reviews are subject to the same CPIC process criteria used during normally scheduled investment portfolio reviews with one addition: ad-hoc investments must be accompanied by an OA justification statement to explain

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why an out-of-cycle review is necessary. A request for an ad-hoc review and a letter of justification must be sent to the Co-Chairs and the IAT to begin the ad-hoc review process.

All ad-hoc review decisions will be re-examined by the IRB during the fourth quarter IRB meeting as part of the final portfolio selection process.

### 6.4.3 IT Dashboard Evaluations

As required by OMB, DOT will submit monthly IT Dashboard updates and CIO ratings for all major investments via the CIMS tool. To help provide the public with the most realistic status of our IT projects, OAs will continue to propose ratings, which will be examined by the OCIO and approved or revised as necessary. CIO ratings will be submitted to OMB only after the DOT CIO or Deputy formally approves them. The DOT IRB will be informed of IT Dashboard ratings as a part of the IRB meetings. Details on the monthly IT Dashboard updates and quarterly CIO ratings review procedures may be found in the DOT Investment Management Process SOP.

As part of the monthly dashboard updates, the IAT and the Associate CIO of IT Policy Oversight will conduct a review of any Major investments which require rebaselining. OAs may initiate this process by requesting a rebaseline 30 days prior to dashboard submission. OAs will also need to provide documentation including:

1. An OA generated rebaselining request memorandum detailing the justification for the rebaseline and changes to cost, schedule, scope, or performance
- 2.
3. Updated business case including changes to ROI
4. Updated Integrated Master Schedule

Following the initial request, the IAT will meet with OA representatives as necessary to review the rebaseline proposal. Within seven business days of the meeting, the OCIO will make a determination on the request. The OCIO may approve of the rebaseline proposal, reject the proposal, or provide feedback detailing any actions necessary to modify the request to support approval. Details on rebaseline review and approval procedures may be found in the DOT Investment Management Process SOP.

### 6.4.4 Unplanned Procurements

In order to ensure that unplanned procurements are not generating undue proliferation of goods and services in the IT environment, OAs should inform the IAT whenever they decide to make an unplanned procurement. These procurements are defined as:

1. Procurements which are not related to an investment that was previously approved by the IRB and include IT, or
2. Procurements which are not included in an IRB-approved investment plan, but are being made for an IRB-approved investment outside of the normal investment review cycle

In such cases, the OA initiating the procurement should inform the IAT via an email to the CPIC mailbox. The email notification should include an overview of the procurement, including the name of the

## **Interim Investment Management Guidance**

product or service being procured, a justification for the procurement, associated costs, the federal employee responsible for the procurement action, and the name and UII of the parent investment.

Depending upon the nature of the procurement, the IAT may refer this information to the EAB for analysis. If the IAT or EAB observes undue duplication of capabilities or services, or identifies areas of potential redundancy, they will contact the OA and attempt to resolve these issues. If necessary, they will refer the procurement to the IRB for review at the next quarterly meeting.



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investments, confirm the TechStat slate (as necessary) for the upcoming quarter, and review the IT Dashboard.

- In the final quarter of the fiscal year, the IRB will review any changes to the portfolios as a result of changing business needs, federal mandates, legislative action, or out-of-cycle investments.
- At the fourth quarter meeting, the IRB will confirm the entire DOT IT portfolio and direct all OAs to update their Exhibit 53 documentation for submission to Budget.

### 8 Approval

X

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Richard McKinney  
DOT Chief Information Officer



### Appendix A: DOT Segment Architecture

The DOT segment architecture consists of three domain areas: Mission Services, Business Support Services, and Enterprise Services. Each domain contains sub-categories which further compartmentalize investments according to their purpose and function.

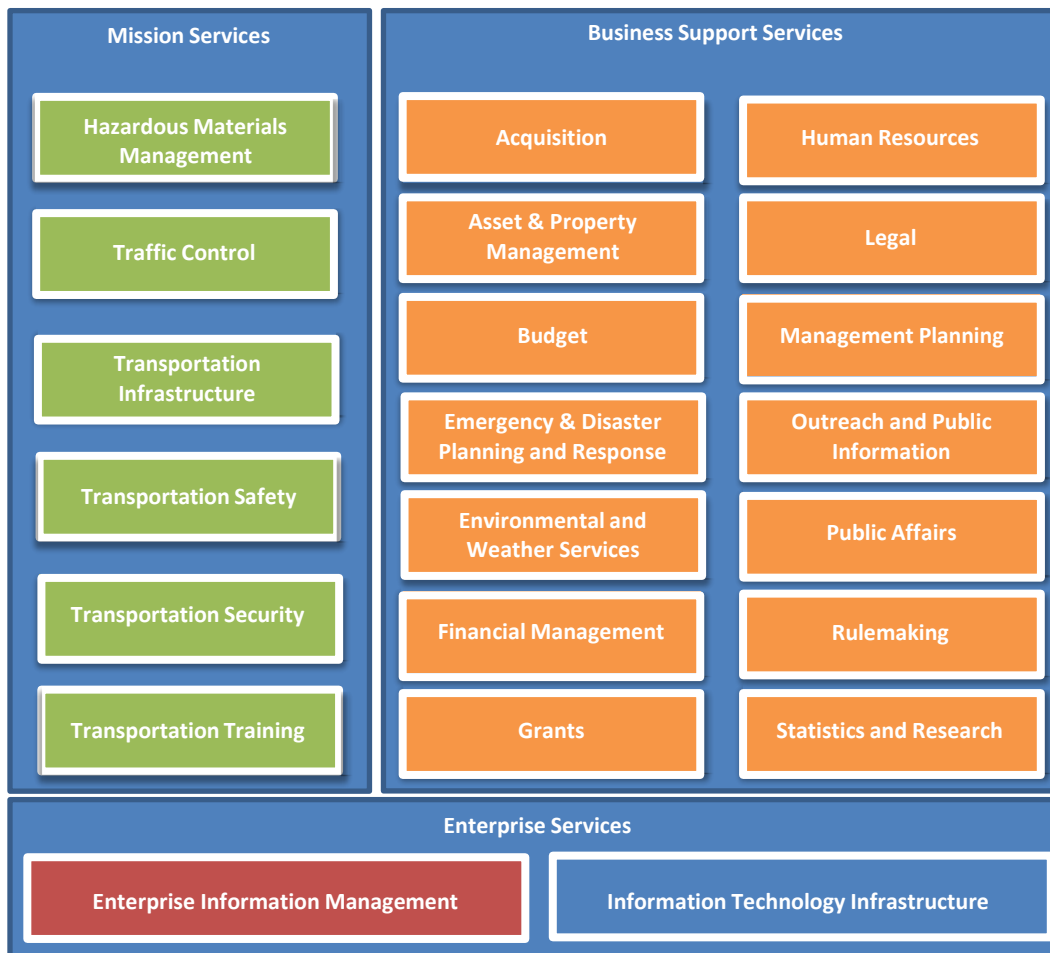


Figure 5: DOT EA Segments & Domains

- **Mission Services** segments represent those investments relevant to a unique mission service area defined by an Operating Administration, such as air traffic control or pipeline monitoring.
- **Business Support Services** segments include the foundational mechanisms and back-office services used to enable the general operation of the DOT (e.g., project management, human resource management, and financial management systems).
- **Enterprise Services segments** include Enterprise Information Management investments (common policies, frameworks, requirements, and standards developed to be applied enterprise-wide), and investments that contain infrastructure which supports core mission systems and/or support systems.

### Appendix B: Acronym List

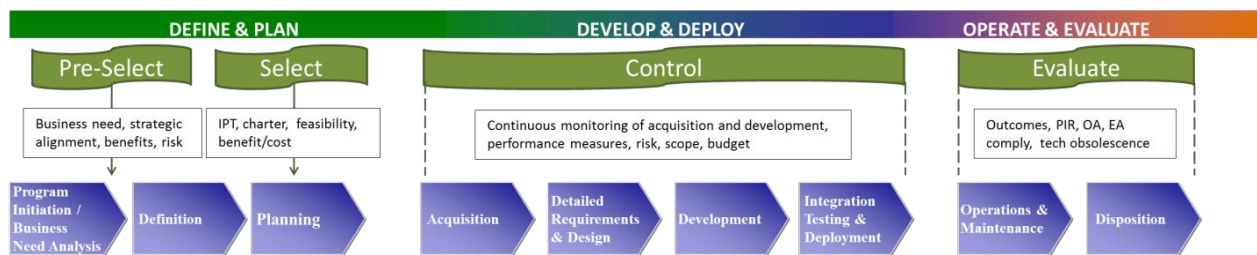
The acronyms listed below are commonly used throughout this Interim Investment Management Guidance document.

- ASRB: Acquisition Strategy Review Board
- CFO: Chief Financial Officer
- CIMS: Corporate Information Management System
- CIOC: Chief Information Officers' Council
- ConOps: Concept of Operations
- CPIC: Capital Planning and Investment Control
- DOT: U.S. Department of Transportation
- EA: Enterprise Architecture
- EAB: Enterprise Architecture Board
- FISMA: Federal Information Security Management Act
- GAO: Government Accountability Office
- IAT: Investment Analysis Team
- IDR: Investment Decision Recommendation
- IPPM: Integrated Program Planning and Management
- IPT: Integrated Project Team
- IRB: Investment Review Board
- IRM: Information Resource Management
- IT: Information Technology
- IWG: Investment Working Group
- OA: Operating Administration
- OCIO: Office of the Chief Information Officer
- OMB: Office of Management and Budget
- OPPM: Oracle Primavera Portfolio Management
- PCR: Portfolio Certification Request
- PIA: Privacy Impact Assessment
- PIR: Post-Implementation Review
- POA&M: Plan of Actions and Milestones
- ROI: Return on Investment
- SAR: Security Assessment Report
- SOP: Standard Operating Procedures
- SPE: Senior Procurement Executive
- SSP: System Security Plan

## Appendix C: DOT's Integrated Program Planning and Management (IPPM) Process

DOT's IPPM identifies the activities necessary to ensure that investments in information technology (IT) programs and projects are properly planned and managed throughout their lifecycle. The IPPM process applies to all new and ongoing investments in the Department with the exception of the FAA which uses the Acquisition Management System, a process that generally aligns with the IPPM (per the IPPM memorandum). The IRB Supporting Boards may require IPPM artifacts at several points in the review process to extract pertinent data relating to investment performance.

The chart below provides an overview of the IPPM process, its alignment to CPIC phases and the objectives for each process phase:



The IPPM processes provide a basis for key decision points involving the IRB, as well as artifacts required throughout the investment management process. The IRB will consider portfolios of investments. In a given portfolio, investments may be in any of the Pre-Select, Select, Control, and Evaluate phases. The IRB will make decisions on all investments in a given portfolio. It is important to note, however, that the IPPM process itself is primarily used by program or project managers. The main distinction between the two is that IPPM is focused at the level of *investment* control, and the IRB is focused at the level of *portfolio* control.

### Appendix D: Sample OA CIO Portfolio Approval Request (PAR)



US DOT Investment Review Board  
**Request**

**Portfolio Approval**

#### **SAMPLE Memorandum for DOT Investment Review Board Chair(s)**

**Date: February 31, 2014**

**SUBJECT: OA CIO Portfolio Approval Request (PAR) for the *Financial Management Segment***

As a designated OA CIO, I request approval of the *Financial Management Segment* and authority to obligate \$4.321 billion towards investments outlined in the attached spreadsheet for Fiscal Year (FY) 2015. This funding is required to execute the *Financial Management Segment* capabilities to achieve the department's priorities and goals for FY2015.

I verify that: the investments contained in the *Financial Management Segment* satisfy the capability requirements of this segment; the investments contained in this segment satisfy the mission goals of the Department of Transportation; the information contained in these investment descriptions is accurate and up to date as of *February 31, 2014*; the relevant and required budget data in the Office of Management and Budget (OMB) Exhibit 53 and Exhibit 300 documents for these investments have been completed; and the relevant investment cost, schedule, and performance documentation has been completed for these investments in accordance with the DOT Integrated Program Planning and Management (IPPM) framework.

I have reviewed the investments which fall under the *Financial Management Segment* as required by the guidelines presented in the Clinger-Cohen Act, as applicable. Full descriptions of these investments, required reviews, and corrective actions are included in the attached documents.

I recommend your approval of this request. All required documentation has been forwarded for your review. My point of contact for questions about this submission is *Mr. John Q. Everyman*, who may be reached at 123-456-7891 or emailed at [john.everyman@dot.gov](mailto:john.everyman@dot.gov).

Signed, *Jane M. Doe*

Attachments:

1. *Financial Management Investment Listing*
2. *Financial Management Condition Status Report & Updates*

# Interim Investment Management Guidance

US DOT Investment Review Board

## Portfolio Approval Request

SAMPLE ATTACHMENT 1: Financial Management INVESTMENT LISTING FOR FY 2015

Investment Name	OA	Fiscal Year (FY)	Program Manager Name	Major Investment (Yes/No)	Request by Fund Type (\$M)		Request Total (\$M)
					O&M	DM&E	
Investment A	OA 1	2015	Suzie Queue	No	\$5	\$3	\$3.5
Investment B	OA 2	2015	Jack R. Terrier	No	\$2	\$4	\$6
Investment C	OA3	2015	Clarence Highbrow	Yes	\$3	\$5	\$8
Investment D	OA4	2015	Mary Mack	Yes	\$4	\$6	\$10
Investment E	OA5	2015	Jeremy Runner	Yes	\$5	\$7	\$12

NOTE: Fund Types are Operations and Maintenance (O&M) and Development, Modernization and Enhancement (DM&E).

SAMPLE ATTACHMENT 2: Financial Management CONDITION STATUS REPORT 8. UPDATES FOR FY 2015

Investment	System	FY	Condition	Issued Date	Required Date	Status	Completion Date
Investment A	System A	2015	system A lacks a sunset plan, and must provide this information	Aug. 12, 2012	Sept. 1, 2013	Sunset plan was completed and verified.	10/1/2013
Investment B	System B	2015	system B has been modified by H.R. Random Legislation, and should be updated to reflect new performance targets	June 25, 2013	January 25, 2014	Updates to system Bare ongoing, including addition of procurement X. Funding issues may delay this project.	12/31/2013 (projected)

## Appendix E: Issue Paper Sample

### Purpose

*The Issue Paper provides a mechanism for two-way communication between Operating Administrations and IRB supporting groups and is used to highlight key issues the Investment Review Board (IRB) should focus on to inform investment decisions. It summarizes potential issues discovered during IRB analysis in an effort to resolve potential issues at the lowest possible level of investment reviews. Those issues that can't be resolved or warrant IRB attention will form the basis for the portfolio discussion during the IRB meeting. These are not an exhaustive list of potential issues; others may be identified during the review process.*

### Issues

#### General

- Evaluation data not submitted or incomplete for 33 percent (or 10 investments) of the portfolio's investments; therefore a comprehensive analysis could not be conducted.
- Investment XX Exhibit-53 denotes there has been a program re-baseline. However, there is no evidence to determine what the original baseline was or the rationale for the change.
- Portfolio contains three investments using COTS products that will become unsupported by the manufacturer within nine months; there's no transition plan or strategy to mitigate this circumstance.
- Investment X does not align with the DOT Strategic Plan.
- Investment Y does not have a functional sponsor.

#### Schedule

- Two investments have estimated capability delivery dates outside OMB's established 90-180 day criteria.
- Four investments are more than six months behind planned schedule.

#### Funding

- Portfolio funding profile includes a \$1.7M request for non IT-related items.
- Four of the twelve investments have funding shortfalls that are in excess of \$2M.
- Investments X and Y are requesting \$750K above total lifecycle cost estimates with no justification for the increase.
- Portfolio request exceeds FY 14 approved amount by \$1.5M

#### Performance and Program Management

- Investment C does not deliver full capability for payroll and travel management.
- Portfolio delivers 60% of intended capabilities.
- Requirements have not been baselined for investments A, C, and D.

# Interim Investment Management Guidance

## Risk Management

- The risk management plan only includes program risks. Operational risks and dependencies should be identified as well.
- Risk mitigation strategies have not been identified.

## Enterprise Architecture/Target Architecture Alignment

- Enterprise Architecture artifacts (OV-1, OV6c and SV1) are not available to determine EA alignment. Please provide these artifacts if available.
- There are multiple investments [Financial Management System A within OA 1 and Accounting System B within OA 2] that appear to be providing similar functionality. Has there been cross-communication to determine the possibility for consolidation of efforts?
- The investment publishes data through the DOT website, but the datasets are not published on data.gov. Please provide a rationale as to why.
- Investment X is not leveraging cloud technology, but plans to seek data center space to provide the required capability. Was a cloud solution ever evaluated or considered as an option, if not, why not?

## Cybersecurity and Privacy

- The Privacy Impact Assessment document does not accurately reflect the information that is contained within the system.
- Three investments are behind schedule for PIV implementation. What is the timeline to complete the PIV enablement?
- Investment X does not route network traffic through a Trusted Internet Connection. What is the plan to address this issue to make the connection TICv2.0 compliant?

# Interim Investment Management Guidance

## Appendix F: Investment Decision Recommendation Sample

US DOT Investment Review Board

### Investment Decision Recommendation (IDR) Sample

#### APPROVAL RECOMMENDATION FOR THE FINANCIAL MANAGEMENT SEGMENT

SUBJECT: Investment Decision Recommendation, for Financial Management (FM) Segment

#### Referenees:

- (a) DOT Enterprise Architecture Roadmap, dated XX
- (b) Department of Transportation (DOT) Investment Management Interim Guidance, dated XX
- (c) DOT IT Governance Order 1351.39, dated August 2012

**Purpose:** The Operating Administrations (OAs) requested the Investment Review Board (IRB) review and approve 11 FM investments totaling \$25M as identified in the DOT Enterprise Architecture Roadmap in accordance with reference (a). The IRB convened a series of reviews by supporting groups in accordance with reference (b) to assess the FM portfolio in the department and recommended approval; stipulations are outlined under Decisions.

#### Decisions:

- Eight FM investments identified in the attachment are approved in the specific amounts indicated for a total not to exceed \$20M.
- Two FM investments totaling \$5M are currently unfunded and therefore are conditionally approved pending appropriate funding.
- The investment for a new business system will be considered at a future IRB and was not approved.
- The OAs must return to the IRB to request approval for any IT investments not identified in the attachment.
- Approval may be revoked if taskings and actions identified in this IDR are not completed within established timelines.

#### Tasking /Action Items:

- Within 45 days of the date of this IDR applicable OAs or Functional Sponsors must:
  - o Document the plan to achieve Enterprise Architecture (EA) compliance for investments currently identified by the Portfolio Approval Request as non-compliant. The plan must be in accordance with references (a) and (c). EA compliance includes compliance with all applicable laws, regulations and policies.
  - o Correct misalignment of investment C, D, and E in the OPPM repository and notify the IRB staff upon completion.
- Within 90 days of the date of this IDR applicable OAs or Functional Sponsors must:
  - o Determine whether the functionality delivered by investments E, D and F can be consolidated.
  - o Provide lifecycle costs estimates in OPPM for Investments E, D, and F.
  - o Provide sunset dates for investments C and G.



# Interim Investment Management Guidance

US DOT Investment Review Board

## Investment Decision Recommendation (IDR) Sample

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**Discussion:** The core investments within this Financial Management Portfolio are key to enabling the Department of Transportation to improve the financial management process. Additionally, it is important that all financial feeder systems be appropriately aligned and compliant with the department's enterprise architecture to help identify inefficiencies and redundancies, and help create the most efficient target environment to execute financial management business goals.

**Point of Contact:** The point of contact for investment management actions is XXXX, who may be reached at (202) XXX-XXXX or XXXXXXXXXX.XXXXXX@dot.gov.

US DOT Chief Information Officer (Name)  
Co-Chair  
Investment Review Board

### Appendix G: Roadmap to Target Environment (Transition Diagram) Template

This template demonstrates a method of viewing all current and planned investments that define the information technology assets used to deliver the required capabilities for a specific mission area. This view of a target environment enhances the governance process by helping pinpoint redundant IT systems, assisting with decisions to retire investments within a segment portfolio, and by allowing CPIC managers, functional sponsors, and IRB members to determine if mission area investments are executed in an efficient manner.

