Testimony

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TECHNOLOGY MODERNIZATION FUND

Past Awards Highlight Need for Continued Scrutiny of Agency Proposals

Statement of David B. Hinchman, Acting Director, Information Technology and Cybersecurity

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Past Awards Highlight Need for Continued Scrutiny of Agency Proposals

Why GAO Did This Study

Enacted in 2017, the provisions commonly referred to as the Modernizing Government Technology (MGT) Act established the TMF in recognition of the challenges in modernizing federal information systems. OMB and GSA administer the TMF, and a Technology Modernization Board comprised of federal IT executives reviews agency project proposals. Since the program's creation, it has received over $1.1 billion in appropriations and made awards to over 20 projects that sought to address the federal technology challenges on which GAO has extensively reported.

The MGT Act included a provision for GAO to report biannually on the TMF and the projects receiving these funds. This testimony summarizes past GAO reporting on the TMF, including (1) the status of the fund and approved projects and (2) the reliability of selected projects' cost saving estimates.

This statement is primarily based on the results of GAO's prior work, which includes the reports cited in this statement. GAO also reviewed the status of approved projects as of May 2022, and agencies' efforts to address its recommendations.

What GAO Found

The Technology Modernization Fund (TMF) provides awards to agencies to, among other things, modernize aging federal information systems. From the initial $175 million that Congress appropriated for TMF, the Technology Modernization Board approved 11 projects totaling about $76 million (see table 1). Agency proposals were to include estimates of any project-related savings; agencies could use these savings to satisfy the requirement that they reimburse the TMF for any transfers within 5 years. GAO previously reported that for the initial seven projects approved in 2018 and 2019, two had reported generating cost savings but those savings were not documented. For the remaining five projects, two no longer planned on savings, two planned on savings starting in 1 to 3 years, and one did not know when savings would begin.

Table 1: Technology Modernization Fund (TMF) Projects Approved, as of August 31, 2021 (in dollars)

Agency and TMF project	Total TMF investment[a]	Date of award announcement
Department of Agriculture (Agriculture) Farmers.Gov Portal	4,000,000	June 7, 2018
Department of Energy Enterprise Cloud Email	2,436,153	June 7, 2018
Department of Housing and Urban Development Unisys Migration	13,850,013	June 7, 2018
Agriculture Infrastructure Optimization	220,000	October 29, 2018
Department of Labor (Labor) Visa Application Transformation	3,500,000	October 29, 2018
General Services Administration (GSA) Application Modernization	7,808,563	October 29, 2018
GSA NewPay	7,316,786	February 11, 2019
Agriculture Specialty Crops Systems Modernization	8,000,000	October 21, 2019
U.S. Equal Employment Opportunity Commission Charge and Case Management System Modernization	4,000,000	October 21, 2019
U.S. Customs Border and Protection Automated Commercial Environment Collections Module	15,000,000	July 27, 2020
Labor Data Modernization	9,600,000	March 21, 2021
Total	**75,731,515**	

Source: GAO analysis of agency TMF project documentation, May 2022. | GAO-22-106054

[a]The total TMF investments are as of May 2022 and include updates from the initial award.

In March 2021, the *American Rescue Plan Act of 2021* appropriated an additional $1 billion to the TMF. In May 2021, the Office of Management and Budget (OMB) provided updated TMF guidance to agencies regarding this $1 billion. Among other things, the guidance (1) prioritizes projects that cut across agencies and address immediate cybersecurity gaps, and (2) allows agencies to apply for a partial or minimal reimbursement of the TMF funds provided (partial is defined as agencies repaying 25 to less than 100 percent of the award while minimal is greater than zero but less than 25 percent). On September 30, 2021, the board announced the approval of seven new projects with awards totaling at least $311 million (one of the seven projects is classified; no award figure is publicly available). In deciding on these seven, the Technology Modernization Board received 113 project proposals requesting a total of more than $2.3 billion. Three additional awards have since been announced (see table 2).

— **United States Government Accountability Office**

What GAO Recommends

In its first TMF report, GAO recommended that

- OMB and GSA develop and implement a plan that outlines the actions needed to fully recover the TMF Program Management Office's operating expenses with fee collection in a timely manner, and
- GSA develop detailed guidance to aid agencies in completing their TMF proposal cost estimates.

These recommendations have not yet been fully implemented. GAO maintains that their implementation can improve the sufficiency of fee collection and the quality of cost estimates.

Table 2: Technology Modernization Fund (TMF) Projects Approved, since September 2021 (in dollars)

Agency and TMF project[a]	Total TMF investment[a]
General Services Administration (GSA) Advancing Zero Trust	29,802,431
GSA Login.Gov	187,050,000
GSA Max.gov Transition	14,500,000
Department of Education Zero Trust Architecture	20,000,000
Office of Personnel Management Zero Trust Networking	9,900,000
Department of Homeland Security Southwest Border Technology Integration	50,000,000
U.S. Selective Service System Registration and Verification Modernization	5,998,807
U.S. Postal Regulatory Commission IT Modernization	2,645,000
Department of Veterans Affairs Veteran Identify Modernization	10,550,000
Total	**330,446,238**

Source: GAO analysis of agency TMF project documentation, May 2022. | GAO-22-106054

[a]The 10th award is a classified project and no details on the agency, nature of the project, or the amount of its award have been publicly disclosed.

Regarding TMF operating costs and fees collected to offset those costs, as of August 2021, the General Services Administration (GSA) had received fee payments totaling about $810,000, or about 29 percent of its operating expenses of $2.8 million. A key reason for this shortfall was that six of the seven initially approved projects narrowed their scopes. This led to reduced award amounts transferred to agencies, which in turn resulted in about a $1.12 million reduction in anticipated fees. Relatedly, OMB and GSA have not yet implemented GAO's prior recommendation to develop and implement a plan to fully recover operating expenses with fee collection. Doing so would provide greater assurance that fees collected would be sufficient to offset operating costs.

OMB's TMF funding guidelines require projects to include a reliable estimate of any project-related savings, as defined in OMB Circular A-11 (which references GAO's Cost Estimating and Assessment Guide). However, most of the TMF projects awarded through August 2021 relied on savings estimates that were derived from cost estimates GAO found to be unreliable. Specifically, 10 of the 11 projects reviewed did not fully incorporate best practices for a reliable cost estimate.

With hundreds of millions of dollars remaining in the TMF, it is increasingly important that GSA implement GAO's prior recommendation to improve the instructions for the TMF cost estimate template required of each proposal. Such action would help ensure that the Technology Modernization Board is reviewing documentation that is complete, accurate, and reliable. By continuing to ensure that such proposals adequately capture project scope and cost, OMB and GSA can help better position TMF as a useful tool for addressing critical IT modernization needs across the federal government.

Chairman Connolly, Ranking Member Hice, and Members of the Subcommittee:

Thank you for the opportunity to contribute to today's discussion on the Technology Modernization Fund (TMF). As you know, although agencies spend more than $100 billion annually on information technology (IT), the federal government has faced longstanding problems in its management of IT. In our March 2021 high-risk series update, we reported that the management of IT acquisitions and operations continued to face challenges and required significant attention to address outstanding issues.[1]

We have long stressed the need for federal agencies to update their increasingly aging legacy IT systems. These systems often use outdated programming languages, and unsupported hardware and software. In some cases, they are operating with known security vulnerabilities. In response to challenges such as these, the TMF was created in 2017, with the intent to improve the efficiency and effectiveness of federal IT systems, especially aging legacy systems. Since the program's creation, it has received over $1.1 billion in appropriations and made awards to about 20 projects that sought to address the federal technology challenges on which we have extensively reported.

As you requested, my testimony today discusses the results of our prior reports on the TMF. Specifically, it summarizes (1) our reviews of the status of the fund and approved projects made by the TMF between the program's inception in 2017 and the end of August 2021, and (2) the reliability of selected projects' cost saving estimates. This statement is based primarily on the results of our prior work, which includes the reports that we cite throughout this statement. In addition, we updated the status of approved projects as of May 2022, and agencies' efforts to implement our recommendations.[2] Detailed information on the objectives, scope, and methodology for our prior work can be found in the issued reports.

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[1]GAO, *High-Risk Series: Dedicated Leadership Needed to Address Limited Progress in Most High-Risk Areas*, GAO-21-119SP (Washington, D.C.: Mar. 2, 2021).

[2]GAO, *Technology Modernization Fund: OMB and GSA Need to Improve Fee Collection and Clarify Cost Estimating Guidance for Awarded Projects*, GAO-20-3 (Washington, D.C.: Dec. 12, 2019); and *Technology Modernization Fund: Implementation of Recommendations Can Improve Fee Collection and Proposal Cost Estimates*, GAO-22-105117 (Washington, D.C.: Dec. 10, 2021).

We conducted the work on which this statement is based in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Federal agency IT systems provide essential services that are critical to the health, economy, and defense of the nation. However, federal agencies increasingly rely on aging legacy systems that can be costly to maintain. As we previously reported in April 2021, each year the federal government spends more than $100 billion on IT and cyber-related investments. Of this amount, agencies have typically spent about 80 percent on the operations and maintenance of existing IT investments, including legacy systems.[3] In addition, many of the government's IT investments used hardware parts that were unsupported and outdated software languages, such as the common business oriented language (COBOL).[4] In some cases, this lack of vendor support created security vulnerabilities and additional costs because these known vulnerabilities were either technically difficult or prohibitively expensive to address.

Recognizing the challenges in modernizing government IT systems, the President and Congress enacted legislation in December 2017 that established a new funding mechanism to improve, retire, or replace existing systems. The provisions of the *National Defense Authorization Act for Fiscal Year 2018*, commonly referred to as the *Modernizing Government Technology (MGT) Act*,[5] established the TMF. The fund is intended to improve the efficiency and effectiveness of federal IT systems, especially aging legacy systems.

Congress appropriates money to the TMF, which is used to fund approved projects. As of May 2022, the TMF had received $175 million in

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[3]GAO, *Information Technology: Agencies Need to Develop and Implement Modernization Plans for Critical Legacy Systems,* GAO-21-524T (Washington, D.C.: Apr. 27, 2021).

[4]The common business oriented language, which was introduced in 1959, became the first widely used, high-level programming language for business applications.

[5]*Modernizing Government Technology Act* provisions of the *National Defense Authorization Act for Fiscal Year 2018*, Pub. L. No. 115-91, div. A, title X, subtitle G, 131 Stat. 1283, 1586-94 (2017).

no-year appropriations through the annual appropriations process, and has an additional $1 billion available through September 30, 2025, appropriated by the American Rescue Plan Act of 2021 to fund modernization projects.[6]

Oversight of the Technology Modernization Fund

The MGT Act assigns specific responsibilities to the Office of Management and Budget (OMB), the General Services Administration (GSA), and the Technology Modernization Board for the fund's administration.

- **OMB** issues guidance on the administration of the fund and reports the status of the awarded projects on a public website.[7] The information reported is to include a description of the project, project status (including any schedule delay and cost overruns), financial expenditure data related to the project, and the extent to which the project is using commercial products and services.

- **GSA**, among other things: (1) provides direct technical support in the form of personnel services and other services; (2) assists the Technology Modernization Board with the evaluation, prioritization, and development of agency modernization proposals; and (3) performs regular project oversight and monitoring of approved agency modernization projects. In March 2018, GSA established a TMF Program Management Office within the agency to manage these functions.

- **Technology Modernization Board**, chaired by the Federal Chief Information Officer (CIO), and made up of seven federal government IT executives,[8] provides input to the Director of OMB for the

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[6]On March 11, 2021, Congress and the President enacted legislation that appropriated an additional $1 billion to be available until September 30, 2025 to carry out the purposes of the TMF. *American Rescue Plan Act of 2021,* Pub. L. No. 117-2, title IV, § 4011, 135 Stat. 4, 80 (2021).

[7]OMB provides information on the status of awarded projects on the TMF's website at https://tmf.cio.gov/.

[8]As of June 2021, the Technology Modernization Board was comprised of the Federal CIO, GSA CIO, the Deputy Executive Assistant Director of Cybersecurity for the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency, the Assistant CIO for the Department of Agriculture's Farm Production and Conservation Mission Area, the Deputy Assistant Director for the National Science Foundation's Computer and Information Science and Engineering research area, the National Geospatial Intelligence Agency's Chief Technology Officer, and the Chief Technology Officer for the Department of Veterans Affairs.

development of processes for agencies to submit proposals, makes recommendations to the Administrator of General Services to help agencies refine their submitted proposals, and evaluates and approves submitted proposals.[9] The board is also responsible for recommending the funding of modernization projects to the Administrator of General Services, and for monitoring the progress and performance of approved projects, in consultation with the Administrator. In addition, the board is tasked with monitoring the operating costs of the fund. As part of its oversight of awarded projects, the board requires each project to present a quarterly update and report on the status of milestones achieved in order to ensure the project is on schedule.

OMB Guidance on Applying for TMF Awards

In February 2018, OMB issued guidance on the implementation of the MGT Act that included instructions for agencies on submitting applications for TMF funding.[10] Agencies were allowed to begin submitting initial application proposals on February 27, 2018. The guidance included an initial application template that agencies were required to complete. As part of the template, agencies were required to provide an estimate of the TMF funding request and the agency's method used for cost estimation.

Subsequently, in March 2018, OMB issued funding guidelines for projects receiving awards. The guidelines stated that project proposals must include a reliable estimate of any project-related cost savings or avoidance relative to pre-modernization activities using the templates provided.[11] In addition, the guidelines stated that estimates must undergo appropriate due diligence and concurrence from the requesting agency's Office of the Chief Financial Officer prior to submission to the board, in consultation with OMB's Resource Management Office. The guidelines also stated that GSA's TMF Program Management Office could provide assistance with completing the project proposal templates. For agencies

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[9]The MGT Act required the Technology Modernization Board to establish criteria for evaluating submitted proposals to address the greatest security, privacy, and operational risks; have the greatest government-wide impact; and have a high probability of success based on factors including a strong business case, technical design, consideration of commercial off-the-shelf products and services, procurement strategy (including adequate use of rapid, agile iterative software development practices), and program management.

[10]OMB, *Implementation of the Modernizing Government Technology Act*, M-18-12 (Washington, D.C.: Feb. 27, 2018).

[11]OMB, *Funding Guidelines for Agencies Receiving Disbursements from the Technology Modernization Fund* (Washington, D.C.: Mar. 12, 2018).

receiving a TMF award, the guidelines stated that agencies were required to reimburse amounts transferred from the fund as well as a fee, which was determined based on the amount of awarded funding.

As part of the process, agencies were required to establish a written agreement with GSA that set forth the terms for reimbursing the transferred funds and the fee. Agencies were required to start making payments no more than 1 year after the initial amount of award funding was transferred and complete repayment within 5 years, unless otherwise approved by OMB. While the guidelines noted that reimbursement was not contingent upon the achievement of project-related savings, agencies could use the project's generated cost savings to repay the award.

Additionally, on December 31, 2020, OMB updated its guidelines (in consultation with the TMF program office) to include a provision that project teams should follow their agency's implementation of OMB Circular A-11[12] with regard to cost estimating, and OMB Circular A-131[13] with regard to value engineering.[14] Since 2006, and as noted in Circular A-11, the cost estimating appendix has been based on the GAO Cost Estimating and Assessment Guide.[15] The guidelines further instructed that the project proposals must include a reliable estimate of project-related costs and any cost savings or avoidance relative to pre-modernization activities.

Moreover, in March 2021, the GSA TMF Program Management Office began sending a memo to each agency awarded TMF funds. This memo reiterated that agencies are to follow their own agency's implementation of OMB Circular A-11 with regard to cost estimating policies and processes.

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[12]OMB, *Preparation, Submission, and Execution of the Budget*, Circular A-11 (Washington, D.C.: Aug. 6, 2021).

[13]OMB, *Value Engineering*, Circular A-131 (Washington, D.C.: Dec. 26, 2013).

[14]OMB, *Funding Guidelines for Agencies Receiving Disbursements from the Technology Modernization Fund* (Washington, D.C.: Dec. 31, 2020).

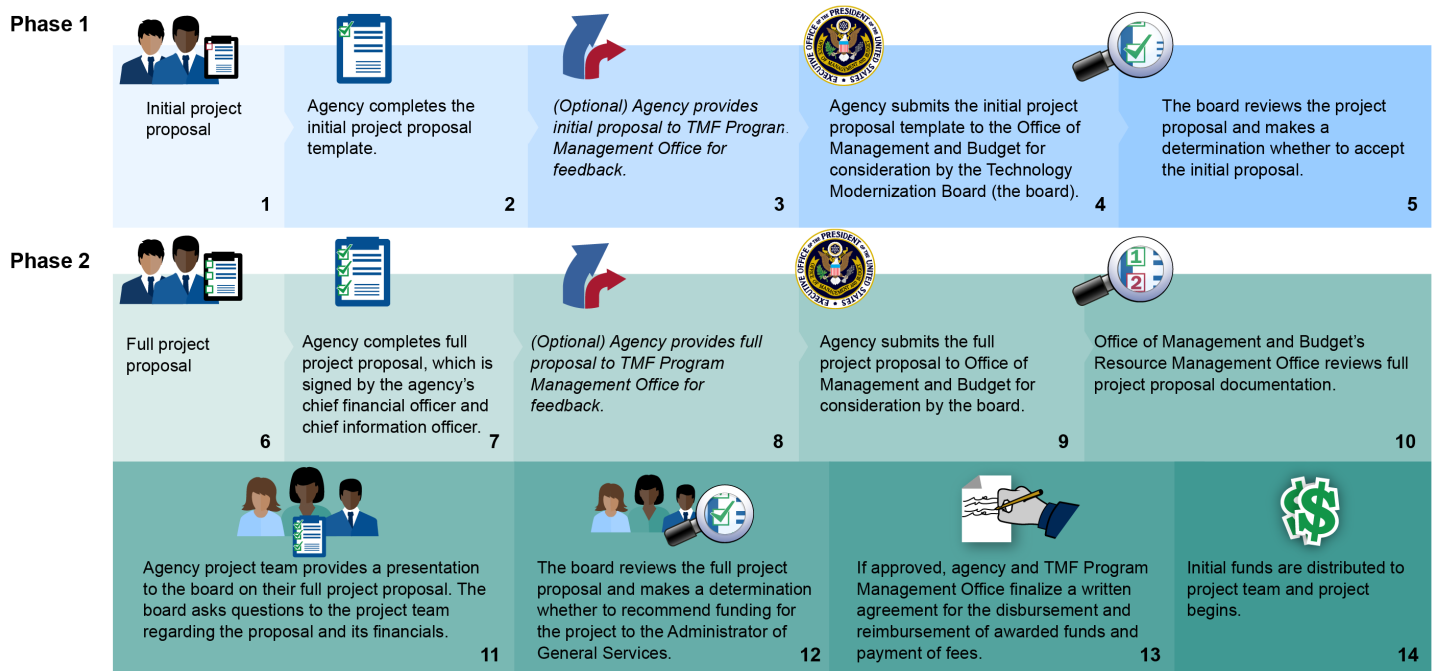[15]GAO, *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Program Costs*, GAO-20-195G (Washington, D.C.: Mar. 12, 2020).

Agencies Followed a Two-Phase Proposal Process When Applying for a TMF Award

As of August 31, 2021, the TMF application process occurred in two phases, each of which required agencies to submit specific documents. During Phase 1, agencies were required to submit an initial project proposal providing preliminary information about the project, its purpose, and its anticipated benefits. Also during this phase, the Technology Modernization Board evaluated proposals and made a determination whether to accept the initial proposal for project funding. If the board approved the Phase 1 initial project proposal, the project moved on to Phase 2.

In Phase 2, the agency submitted a financial plan showing a cost estimate and estimated savings from the implementation of the proposed project. Agencies with projects that the board recommended for TMF funding were required to sign a written agreement outlining the reimbursement terms. In addition, projects received incremental funding contingent on the successful execution of milestones outlined in the written agreement for the transfer of funds. Figure 1 describes the steps in both phases of this TMF proposal process.

Figure 1: Technology Modernization Fund (TMF) Process for Awarding Funds to Proposed Projects

Phase 1

1. Initial project proposal
2. Agency completes the initial project proposal template.
3. (Optional) Agency provides initial proposal to TMF Program Management Office for feedback.
4. Agency submits the initial project proposal template to the Office of Management and Budget for consideration by the Technology Modernization Board (the board).
5. The board reviews the project proposal and makes a determination whether to accept the initial proposal.

Phase 2

6. Full project proposal
7. Agency completes full project proposal, which is signed by the agency's chief financial officer and chief information officer.
8. (Optional) Agency provides full proposal to TMF Program Management Office for feedback.
9. Agency submits the full project proposal to Office of Management and Budget for consideration by the board.
10. Office of Management and Budget's Resource Management Office reviews full project proposal documentation.
11. Agency project team provides a presentation to the board on their full project proposal. The board asks questions to the project team regarding the proposal and its financials.
12. The board reviews the full project proposal and makes a determination whether to recommend funding for the project to the Administrator of General Services.
13. If approved, agency and TMF Program Management Office finalize a written agreement for the disbursement and reimbursement of awarded funds and payment of fees.
14. Initial funds are distributed to project team and project begins.

Source: GAO analysis of TMF documentation. | GAO-22-106054

As discussed in greater detail later, the TMF changed the funding guidelines for a series of awards made beginning in September 2021. These changes were not part of the review that culminated in our December 2021 report on the TMF. Accordingly, we do not know if the change in funding guidelines also necessitated any changes to the award process. These changes will be covered by our next report in December 2023.

GAO Previously Reported on the Status of the Technology Modernization Fund

In December 2019, we reported that OMB and GSA needed to improve fee collection and clarify cost estimating guidance for the initial seven awarded projects.[16] Specifically, we noted that GSA had obligated about $1.2 million to cover TMF operating expenses, but had recovered only about 3 percent of those expenses through fee payments.

We reported that GSA had collected fewer fees than planned to offset costs due to several factors. These factors were: (1) no fees were collected in the first year of operation, (2) projects chose longer periods to make payments, (3) projects made payments based on funds transferred, (4) fee rates were determined based on assumptions regarding appropriations that were not met, and (5) project changes may affect fee collection.

We also reported that these initial seven projects' reported savings estimates derived from cost estimates were not reliable. None of the projects incorporated all of the best practices for a reliable cost estimate, as defined in OMB guidance and the GAO guide.

In the December 2019 report, we made the following recommendations to OMB and GSA:

- OMB and GSA should clarify the requirement in the TMF guidance that agencies follow the cost estimating process outlined in OMB Circular A-11 when developing the proposal cost estimate.

- OMB and GSA should develop and implement a plan that outlines the actions needed to fully recover the TMF Program Management Office's operating expenses with fee collection in a timely manner.

- GSA should develop detailed guidance for completing the TMF project cost estimate template, including information on the data elements

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[16]GAO-20-3.

and the fields required to be completed, in order to help ensure the accuracy and completeness of the provided information.

OMB and GSA implemented our recommendation on clarifying cost estimating guidance. Specifically, in December 2020, OMB and GSA updated their guidance to clarify the requirement in the TMF guidance that agencies follow the cost estimating process outlined in OMB Circular A-11, when developing the proposal cost estimate.

However, OMB and GSA have not yet fully implemented our recommendation to develop and implement a plan to fully recover operating expenses with fee collection. While the TMF Program Management Office has improved its fee collection to recover about 29 percent of its operating expenses, as of August 2021 (as opposed to the 3 percent we reported in 2019), it is not clear when the program office will fully recover future operating expenses incurred in fiscal year 2022 and beyond. This reinforces the importance of OMB and GSA working collaboratively to implement a fee structure that accurately reflects the TMF program. Therefore, we continue to believe that OMB and the GSA should take steps to address our prior recommendation to fully recover TMF operating expenses.

Furthermore, while GSA has taken steps to develop detailed guidance for completing the TMF project cost estimate template, the agency has not yet fully implemented our recommendation. Specifically, GSA included additional guidance in an updated template. However, the agency did not include detailed guidance related to the data elements and fields required to be completed. Such action would help ensure that the TMF board is reviewing documentation that is complete, accurate, and reliable.

The Majority of TMF Projects Awarded through August 2021 Have Not Realized Cost Savings

The TMF provides awards to agencies to, among other things, modernize aging federal information systems. From the initial $175 million appropriated for the TMF, the Technology Modernization Board approved 11 projects totaling about $89 million, as of August 2021. Since then, the amount of TMF investment changed for several projects. As of May 2022, the total TMF investment for these 11 projects is about $76 million. Table 1 lists the projects that received funding between June 2018 and August 2021, when the TMF funding awards were announced, and the amount of the investment as of May 2022.

Table 1: Agency Projects That Received Technology Modernization Fund (TMF) Awards as of August 2021, and the Total TMF Investment (in dollars)

Agency	Project name	Date of award announcement	Total TMF investment[a]
Department of Agriculture	Farmers.Gov Portal	June 7, 2018	4,000,000
	Infrastructure Optimization	October 29, 2018	220,000
	Specialty Crops System Modernization	October 21, 2019	8,000,000
Department of Energy	Enterprise Cloud Email	June 7, 2018	2,436,153
Department of Housing and Urban Development	Unisys Migration	June 7, 2018	13,850,013
Department of Labor	Data Modernization	March 21, 2021	9,600,000
	Visa Application Transformation	October 29, 2018	3,500,000
General Services Administration	Application Modernization	October 29, 2018	7,808,563
	NewPay	February 11, 2019	7,316,786
U.S. Customs and Border Protection	Automated Commercial Environment Collections Module	July 27, 2020	15,000,000
U.S. Equal Employment Opportunity Commission	Charge and Case Management System Modernization	October 21, 2019	4,000,000
Total			**75,731,515**

Source: GAO analysis of agency TMF project documentation as of May 18, 2022. | GAO-22-106054

[a]The total TMF investments are as of May 2022, and include updates from the initial award. For example, the Department of Agriculture and the General Services Administration reported that they returned or planned to return unused funds back to the TMF for the Infrastructure Optimization and NewPay projects respectively.

As part of its selection criteria, the Technology Modernization Board stated that each agency would need to clearly demonstrate in its proposal how the proposed project would generate cost savings or how the modernization of the system would dramatically improve the quality of service provided. In addition, OMB's funding guidelines stated that the project proposal must include a reliable estimate of any project-related cost savings or avoidance using the templates provided.[17] Agencies were required to identify in the TMF application what year their project would start to realize cost savings after receiving an award (the earliest year savings could begin to be realized was fiscal year 2019).

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[17]OMB, *Funding Guidelines for Agencies Receiving Disbursements from the Technology Modernization Fund* (Washington, D.C.: Dec. 31, 2020).

However, as of August 31, 2021, nine of the 11 projects had not yet realized any cost savings and two projects had reported cost savings, but had not yet documented those realized savings. We previously reported that as of August 31, 2019, the initial seven projects that received TMF awards planned to begin realizing cost savings in fiscal year 2020 or later.[18] The reasons given for this timing were because either the project was still currently being implemented or the project had experienced changes to prior projections. However, as of August 31, 2021, five of these seven projects had not yet begun to realize savings. Specifically, agencies reported:

- two projects no longer plan to realize savings;[19]

- one project has changed its plans to begin realizing cost savings from fiscal year 2021 to fiscal year 2022;

- one project has not yet determined when it will begin to realize cost savings; and

- one project plans to begin realizing cost savings in fiscal year 2024.

Moreover, one project had reported estimated cost savings of about $500,000 and another project had reported cost savings of about $4 million, but as of August 31, 2021, neither project had documented those savings. Table 2 shows the original reported year for projects' realized cost savings, as of August 31, 2019, the current reported year for projects' realized cost savings, as of August 31, 2021, and reasons for the changes.

[18]GAO-20-3.

[19]At the time the award was funded, the agency reported total planned savings for these two projects was about $41 million.

Table 2: Analysis of Technology Modernization Fund (TMF) Projects' Reported Realized Cost Savings as of August 31, 2019, and August 31, 2021, and Reasons for the Changes

Project	Original reported year for beginning to realize cost savings, as of August 31, 2019	Current reported year for beginning to realize cost savings, as of August 31, 2021	Reason for change
Department of Agriculture's Farmers.Gov Portal	2020	No cost savings will be realized	The project was closed out prior to implementation.
Department of Housing and Urban Development's Unisys Migration	2021	2022	The project was rebaselined and the cost savings shown in year 2022 are after project completion.
Department of Labor's Visa Application Transformation	2021	2019	Not applicable. The agency reported cost avoidance of about $2 million, but these savings have not yet been documented.
General Services Administration's Application Modernization	2022	2021	Not applicable. The agency reported estimated cost savings of about $500,000 in fiscal year 2021, but has not yet documented realized savings.
Department of Energy's Enterprise Cloud Email	2024	2024	No change.
Department of Agriculture's Infrastructure Optimization	To be determined	No cost savings will be realized	The project revised its analysis and determined that it would not generate the return on investment necessary to repay TMF through project savings.
General Services Administration's NewPay	To be determined	To be determined	The project is not currently slated to become operational because requested appropriations for further development, testing, and deployment were not received. According to agency officials, cost savings will be projected if resources are provided for further development and deployment of the project, as well as support for agency migrations to the new product.

Source: GAO analysis of agency TMF project documentation as of August 31, 2021. | GAO-22-106054

Additionally, as of August 31, 2021, agency officials responsible for project management for each of the four awarded projects since our last review stated that their projects had not yet begun to realize cost savings because the projects were still currently being implemented. Specifically, officials for three of the four projects stated that their projects would begin to realize cost savings starting in fiscal year 2022 or later. Labor officials reported that actual savings will be realized upon completion of the project, but that the date had not yet been determined because the funds have not yet been received to begin the project. Table 3 shows the year that each of the four projects report that they would begin to realize cost savings.

Table 3: Technology Modernization Fund (TMF) Projects' Awarded from September 2019 to August 2021 Reported Plans for Beginning to Realize Cost Savings, as of August 31, 2021

Project	Year
Department of Agriculture's Specialty Crops System Modernization	2022
Department of Labor's Data Modernization	To be determined
U.S. Customs and Border Protection's Automated Commercial Environment Collections Module	2024
U.S. Equal Employment Opportunity Commission's Charge and Case Management System Modernization	2022

Source: GAO analysis of agency TMF cost estimate documentation as of August 31, 2021. | GAO-22-106054

TMF Awards in September 2021 Subject to New Funding Guidelines

In March 2021, as part of the American Rescue Plan Act of 2021,[20] the TMF was appropriated $1 billion. Subsequently, in May 2021, OMB updated its funding guidelines to agencies for reimbursing the TMF including criteria on project prioritization, reimbursement flexibility, and project fees. Specifically, starting in June 2021, the new guidelines prioritize projects that cut across agencies and address immediate cybersecurity gaps, improve the public's ability to access government services, and modernize and support priority agency assets and services.

Additionally, the guidelines allowed agencies to apply for either a partial or minimal reimbursement of their awards. According to GSA TMF program officials, the partial reimbursement option is a reimbursement to the TMF of an amount greater than or equal to 25 percent and less than 100 percent of the project's award. According to the same officials, the minimal reimbursement option refers to a reimbursement to the TMF of greater than 0 percent and less than 25 percent of the award. Further, OMB staff in the Office of E-Government and Information Technology stated that the default level of the minimal reimbursement option has been established at 5 percent of the TMF award amounts. As of May 2022, OMB and the TMF Program Management Office have not released the details of these reimbursement changes, nor any resulting impact on the collection of fees to offset TMF expenses.

The board applied these guidelines to the proposed projects beginning in June 2021. Subsequently, on September 30, 2021, the board announced the approval of seven new projects, with six of the awards for those projects totaling about $311 million (one of the seven projects is

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[20]*American Rescue Plan Act of 2021*, Pub. L. No: 117-2, Title IV, § 4011, 135 Stat. at 80.

classified; no award figure is publicly available). In deciding on these seven projects, the board reportedly received 113 project proposals totaling more than $2.3 billion. Three additional awards have been since announced. These awards leave approximately $769 million available for further awards.[21] Table 4 lists the nine unclassified projects awarded since September 2021 and the amounts they received.

Table 4: Agency Projects That Received Awards from the Technology Modernization Fund (TMF) Since September 2021

Agency[a]	Project	Total funds awarded
General Services Administration	Advancing Zero Trust	$29,802,431
	Login.gov	$187,050,000
	MAX.gov Transition	$14,500,000
Department of Education	Zero Trust Architecture	$20,000,000
Office of Personnel Management	Zero Trust Networking	$9,900,000
Department of Homeland Security	Southwest Border Technology Integration	$50,000,000
U.S. Selective Service System	Registration and Verification Modernization	$5,998,807
U.S. Postal Regulatory Commission	IT Modernization	$2,645,000
Department of Veterans Affairs	Veteran Identify Modernization	$10,550,000
Total		**$330,446,238**

Source: GAO analysis of agency TMF project documentation as of May 18, 2022. | GAO-22-106054

[a]The 10th award is a classified project and no details on the agency, nature of the project, or the amount of its award have been publicly disclosed.

Savings Estimates for the Majority of Projects Reviewed Were Not Reliable

OMB's Circular A-11 directs agencies to follow the guidelines outlined in its appendix on cost estimating for all IT investments and acquisitions

[21]This does not include the amount awarded for the classified project, as no award figure is publicly available.

within the federal government.[22] Since 2006, and as noted in the circular, the cost estimating appendix has been based on the GAO Cost Estimating and Assessment Guide.[23] The appendix outlines a number of major steps in the cost estimating process and references the practices in GAO's cost guide. According to GAO's guide, a reliable estimate should meet the criteria for four characteristics and the specific set of best practices associated with each of the characteristics. The four characteristics and the specific best practices, among others, are:

- comprehensive – the estimate should include all life cycle costs, a work breakdown structure, and ground rules and assumptions;

- well-documented – the estimate documentation should describe how the source data were used, the calculations that were performed and their results, and the estimating methodology used;

- accurate – the estimate should be based on historical data or actual experiences on other comparable programs and be updated regularly to reflect changes in the program; and

- credible – the estimate should incorporate the results of sensitivity, and risk and uncertainty analyses.

According to the GAO guide, if the overall assessment rating for each of the four characteristics is not fully or substantially met, then the cost estimate cannot be considered reliable.

In our initial 2019 review of the TMF, none of the reported savings estimates derived from the seven projects' cost estimates were reliable. Specifically, none of the projects incorporated all of the best practices for a reliable cost estimate, as defined in OMB guidance and the GAO guide.

We additionally reported that the only guidance that the Technology Modernization Board provided on the TMF website was the instruction to submit a project cost estimate using a template developed by the GSA Program Management Office, and approved by OMB and the Technology Modernization Board.[24] Further, we noted there were no written instructions for the template regarding the data elements or the fields required to be completed. Although instructions were not provided to

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[22]OMB, *Preparation, Submission, and Execution of the Budget*, Circular A-11 (Washington, D.C.: Aug. 6, 2021).

[23]GAO-20-195G.

[24]GAO-20-3.

agencies, GSA TMF Program Management Office officials told us that the applying agency was responsible for ensuring the accuracy of the cost estimates when submitting proposals. We concluded that absent detailed guidance from the TMF Program Management Office on how to complete the cost estimate template, including information on the data elements and the fields required to be completed, agencies were at risk of continuing to provide incomplete or insufficient information in their project proposals.

Subsequently, in our December 2021 reporting on the four projects that received TMF funding from September 2019 to August 2021, we again highlighted similar cost estimate weaknesses to the findings in our 2019 report. Specifically, the reported savings estimates derived from the cost estimates for three of the four projects could not be considered reliable, while the fourth project's estimate was considered reliable. Table 5 summarizes the results of our analysis of these four TMF-funded projects' cost estimates.

Table 5: GAO Assessment of Technology Modernization Fund (TMF) Projects' Cost Estimates

TMF project	Characteristic			
	Comprehensive	Well-documented	Accurate	Credible
Department of Agriculture's Specialty Crops System Modernization	Minimally met	Minimally met	Minimally met	Not met
Department of Labor's Data Modernization	Partially met	Partially met	Partially met	Not met
U.S. Customs and Border Protection's Automated Commercial Environment Collections Module	Met	Met	Substantially met	Met
U.S. Equal Employment Opportunity Commission's Charge and Case Management System Modernization	Partially met	Minimally met	Minimally met	Not met

Source: GAO analysis of agency TMF cost estimate documentation as of August 31, 2021. | GAO-22-106054

Note: Not met—The estimate provided no evidence that satisfies any of the characteristic's set of best practices. Minimally met—The estimate provided evidence that satisfies a small portion of the characteristic's set of best practices. Partially met—The estimate provided evidence that satisfies about half of the characteristic's set of best practices. Substantially met—the estimate provided evidence that satisfies a large portion of the characteristic's set of best practices. Met—The estimate provided complete evidence that satisfies the characteristic's entire set of best practices.

In our report, we noted that officials responsible for developing the cost estimates for three of the four projects did not incorporate all of the best practices for a reliable cost estimate, as defined in the GAO and OMB guidance. In assessing the reliability of the projects' cost estimates, officials from each of the four projects that we reviewed stated that the

Technology Modernization Board did not require or request supporting documentation on how their cost estimates were developed. All four proposal cost estimates were developed before OMB and GSA implemented our 2019 recommendation to clarify the requirement in TMF guidance that agencies follow the cost estimating process outlined in Circular A-11 (and which references GAO's Cost Estimating and Assessment Guide). Although GSA has now posted clear guidance on what cost estimating process agencies are to follow, it has not yet fully implemented our 2019 recommendation to develop detailed guidance to help ensure the accuracy and completeness of the provided information.

In summary, with hundreds of millions of dollars remaining in the TMF, it is increasingly important that OMB and GSA continue to work with agencies to further improve the quality of agency applications for TMF funds. By continuing to strengthen these applications and ensuring that the proposals adequately capture planned project scope and cost, OMB and GSA can help better position the TMF as a useful tool for addressing critical IT modernization needs across the federal government.

Chairman Connolly, Ranking Member Hice, and Members of the Subcommittee, this completes my prepared statement. I would be pleased to respond to any questions that you may have.

GAO Contacts and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact David Hinchman, Acting Director of Information Technology and Cybersecurity, at (214) 777-5719 or hinchmand@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. GAO staff who made key contributions to this testimony are Neela Lakhmani (Assistant Director), Scott Borre (Analyst-In-Charge), Chris Businsky, Scott Pettis, and Priscilla Smith.