

Coast Guard Shore Infrastructure: More Than \$7 Billion Reportedly Needed to Address Deteriorating Assets

GAO-25-107851 (Accessible Version) Q&A Report to the Committee on Transportation and Infrastructure House of Representatives

February 25, 2025

Why This Matters

The U.S. Coast Guard, a maritime military service within the Department of Homeland Security (DHS), has \$24.5 billion of shore infrastructure assets such as boat stations and piers to support its missions, according to Coast Guard data. In 2019, we reported that Coast Guard data showed about 45 percent of the Coast Guard's shore infrastructure was beyond its expected service life and that the Coast Guard faced infrastructure project backlogs of at least \$2.6 billion. We also found that the Coast Guard partially met or did not meet six of nine leading practices for managing public sector maintenance backlogs—such as establishing goals, baselines, and measures to track the effectiveness of maintenance and repair efforts. Although the Coast Guard has taken some steps to address five of the six recommendations we made in 2019, Coast Guard assets continue to deteriorate.

We were asked to review issues related to Coast Guard shore infrastructure. We are examining the extent to which the Coast Guard addressed our 2019 recommendations related to managing the condition of its shore infrastructure. We are also providing information on the nature and condition of Coast Guard shore infrastructure and its project backlogs.

Key Takeaways

- The Coast Guard faces a growing backlog of shore infrastructure projects that will cost at least \$7 billion to address as of June 2024, according to Coast Guard data, more than double the amount we reported in 2019. Nearly half of the Coast Guard's shore infrastructure is beyond its expected service life.
- In 2019, GAO made six recommendations to help the Coast Guard better manage its shore infrastructure. As of February 2025, the Coast Guard has fully addressed two of those recommendations and taken steps toward addressing three others. For example, the Coast Guard is in the process of systematically assessing the condition of its shore infrastructure. Coast Guard officials expect these assessments to improve the process of prioritizing shore infrastructure projects. However, the Coast Guard has not yet fully implemented tools and analyses-such as models to predict investment outcomes, analyze trade-offs, and make resource decisions-that could help reduce the costs of maintaining its shore infrastructure. The Coast Guard has not addressed the recommendation to include supporting details about competing priorities and trade-offs in congressional budget requests and related reports.

- The President's budget requests for each fiscal year (FY) from FY 2019 to FY 2025 for the Coast Guard's shore infrastructure have not included funding levels that the Coast Guard has identified would meet its targets. According to the Coast Guard, the funding targets for sustaining its shore infrastructure varied from approximately \$439 million in FY 2019 to \$709 million in FY 2025. By comparison, the FY 2025 Congressional Budget Justification for the Coast Guard requested approximately \$167 million for shore infrastructure—well below the Coast Guard's funding target. Actual funding levels for Coast Guard shore infrastructure varied from approximately \$255 million in FY 2019 to \$415 million in FY 2024.
- Fully addressing all six of our 2019 recommendations could help the Coast Guard more efficiently manage existing resources, including reducing costs and positioning the Coast Guard and Congress with better information to address shore infrastructure challenges.

What is Coast Guard shore infrastructure?

The Coast Guard's shore infrastructure is comprised of nearly 40,000 assets such as piers, runways, and buildings from which it carries out operations. It also includes other support infrastructure such as utility systems, training facilities, and housing units as shown in figure 1.

Figure 1: Example of Coast Guard Shore Infrastructure (Housing for Coast Guard Personnel in Kodiak, AK)



Source: U.S. Coast Guard/Petty Officer 3rd Class Cameron Snell. | GAO-25-107851

The Coast Guard categorizes its shore infrastructure into asset lines based on their function, which include different types of equipment and facilities. For example, the Waterfront asset line contains shore infrastructure that supports waterfront operations, such as piers and moorings. Figure 2 shows the different asset lines of Coast Guard shore infrastructure.

Asset line	Examples of assets		Number of assets	Replacement value (in millions)
Housing	Family housing	•	2,451	\$4,632
Aviation	Airfield lighting	*	293	\$2,977
Shore Operations	Ammunition storage		1,007	\$2,802
Civil Works	Marine fuel		6,684	\$2,764
Waterfront	Pier, mooring		1,516	\$2,603
Sector/District	Operations center		236	\$2,227
Community Services	Dining facility	101	1,089	\$1,644
Aids to Navigation	Lighthouse		20,100	\$1,526
Base Services	Maintenance facility	J.	4,162	\$1,381
C5I	Communication tower		1,638	\$795
Training Facility	Firing range	\bigcirc	156	\$676
Industrial	Coast Guard Yard	Ó	49	\$451
Total			39,381	\$24,479

Source: GAO analysis of Coast Guard information; GAO icons. | GAO-25-107851

Note: The Coast Guard categorizes its shore infrastructure into asset lines based on their function. This figure does not include leased assets, floating aids to navigation, or marine environmental response assets. The Coast Guard defines replacement value as the estimated cost to replace an entire asset. C5I stands for Command, Control, Communication, Computer, Cyber, and Intelligence.

What is the condition of Coast Guard shore infrastructure?

In 2023, the Coast Guard assigned its shore infrastructure an overall condition grade of "C" and determined that 49 percent of its shore infrastructure assets were beyond their expected service life.¹ The Coast Guard uses Department of Defense criteria for establishing the expected service life for its shore infrastructure assets, which can range from 6 to 75 years depending on the type of asset. According to the Coast Guard, its buildings are generally designed for a 50-year service life cycle.

The Coast Guard produces annual reports detailing the condition, service life, and cost to replace its shore infrastructure assets. These annual reports also show the percent of assets, which the Coast Guard organizes into asset lines based on their function, that are currently operating beyond their agency-expected service life, as shown in table 1.

 Table 1: Percent of Coast Guard Shore Infrastructure Assets Operating Past Their Service

 Life as of Fiscal Year 2023

Asset Line	Percent of assets past service life
Training Facilities	35
Housing	37
C5I	38
Sector/District	50
Shore operations	51
Industrial	58
Civil Works	60
Base Services	64
Waterfront	69
Aids to Navigation	76
Community Services	77
Aviation	81
Total	49

Source: GAO analysis of Coast Guard documents. | GAO-25-107851

Note: This table is based on agency-reported data as of September 30, 2023 and does not include leased assets, floating aids to navigation, or marine environmental response assets. The Coast Guard uses Department of Defense criteria for establishing the expected service life for its shore infrastructure assets, which can range from 6 to 75 years depending on many factors. C5I stands for Command, Control, Communication, Computer, Cyber, and Intelligence.

What does Coast Guard information show about its shore infrastructure backlogs?

The Coast Guard faces multiple backlogs of shore infrastructure projects with an estimated cost of at least \$7 billion to address, as of June 2024. This is more than double the amount we reported in 2019.² These backlogs include (1) recapitalization projects, which can include replacing assets at the end of their useful life to maintain operational capability, (2) new construction projects, such as building a boat maintenance facility, and (3) deferred depot-level maintenance projects, such as repaving an airfield, which the Coast Guard would execute if funding were available.³ As we have previously reported, these backlogs are contributing to concerns among Members of Congress and Coast Guard leadership of affordability for the Coast Guard.⁴ Table 2 provides information on the backlogs.

Table 2: U.S. Coast Guard's Estimated Shore Infrastructure Backlogs' Project Costs, as of June 2024

Backlog	Cost to address projects with cost estimates (\$)	Number of projects with cost estimates	Number of projects without cost estimates
Recapitalization and new construction	6,150,700,000	115	194
Deferred depot-level maintenance	877,336,083	1,812	40
Total	7,028,036,083	1,927	234

Source: GAO analysis of Coast Guard data | GAO-25-107851

Note: The Coast Guard backlogs include recapitalization projects, new construction projects, and deferred depot-level maintenance projects that the Coast Guard would execute if funding were available. This table does not include projects related to aids to navigation. The recapitalization, new construction, and depot-level maintenance backlog project data are current as of June 2024.

According to Coast Guard officials, the total cost of the backlogs has grown since 2019 due to deferred maintenance and new facilities to accommodate new

assets (such as the Offshore Patrol Cutter). As we have previously reported, the Coast Guard's short-term budget decisions have resulted in a buildup of deferred maintenance and recapitalization efforts related to acquiring new assets.⁵ This buildup continues to put pressure on available resources, including shore infrastructure.⁶ For example, sinkholes at the Coast Guard Yard, as shown in figure 3, limit the range of movement for Coast Guard crews conducting vessel maintenance, according to officials.



Figure 3: Sinkholes at the Coast Guard Yard in Baltimore, MD

Moreover, the Coast Guard's estimated \$7 billion cost of addressing the shore infrastructure backlogs is understated because the Coast Guard has not developed cost estimates for all of its potential projects or adjusted all existing cost estimates for inflation.

The Coast Guard's estimated backlog cost does not include 234 recapitalization and maintenance projects for which the Coast Guard has not developed cost estimates. For example, its FY 2024 backlog list includes at least eight projects to construct or upgrade firing ranges at facilities such as the training center in Cape May, NJ—none of which have cost estimates. By comparison, a new firing range in Yorktown, VA cost about \$11 million in FY 2020. Moreover, the FY 2024 backlog list does not include the estimated \$1.8 million cost to remediate leadcontaminated soil at the firing range project site at the Cape May training center. Factoring in these costs, the actual backlog cost would be higher than \$7 billion.

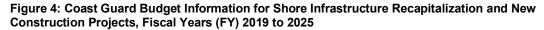
In addition, not all cost estimates on the Coast Guard's list of shore infrastructure projects have been adjusted for inflation. For example, since 2020, the Coast Guard has included a waterfront recapitalization project for its station in Rockland, ME in its annual list of shore infrastructure recapitalization and new construction priorities. It has used the same cost estimate for that project each year: \$40.7 million. If adjusted for inflation, the estimate would be approximately \$48.2 million in 2024 dollars—an increase of \$7.5 million, or 18 percent.

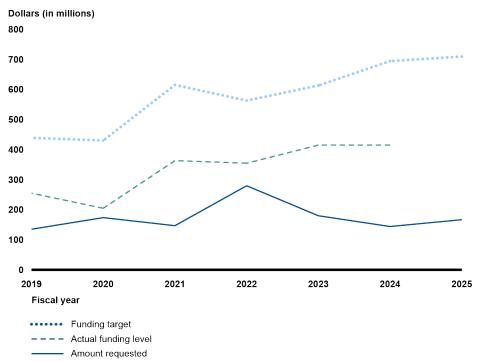
Source: GAO photo. | GAO-25-107851

How do the President's budget requests compare to Coast Guard shore infrastructure funding levels and targets?

The President's budget requests for each fiscal year from FY 2019 to FY 2025 for the Coast Guard have not included funding levels that the Coast Guard has identified would meet its funding targets since at least FY 2019, according to our analysis of DHS Congressional Budget Justifications and Coast Guard data. To identify required annual funding needs for shore infrastructure, the Coast Guard estimates the lifecycle cost—the total cost of owning and operating shore infrastructure from acquisition to disposal. This process, known as a requirements-based budget, sets funding targets for shore infrastructure.⁷

The Coast Guard's shore infrastructure funding targets for recapitalization and new construction projects varied from approximately \$439 million in FY 2019 to \$709 million in FY 2025. However, as shown in figure 4, the President's budget requests for those fiscal years for Coast Guard shore infrastructure consistently fell short of the Coast Guard's funding targets for those fiscal years, according to our analysis of Coast Guard reported financial data.⁸ Although the actual funding levels for Coast Guard shore infrastructure typically exceeded the President's budget requests from FY 2019 to FY 2024, they fell short of Coast Guard funding targets, affecting the Coast Guard's ability to address its growing backlog.⁹





Source: GAO analysis of U.S. Coast Guard data and DHS Congressional Budget Justifications. | GAO-25-107851

Note: Amount requested and actual funding level refer to amounts in the President's budget requests for Coast Guard procurement, new construction, and improvement projects—not deferred maintenance. Information on the actual funding level for FY 2025 was not available at the time of our review.

According to the Coast Guard, the budget topline—a specific dollar amount set by the Office of Management and Budget (OMB)—is the limiting factor that makes it difficult to request a shore infrastructure budget that meets Coast Guard funding targets.

What actions has the Coast Guard taken since 2019 to address our recommendations on managing its shore infrastructure?

The Coast Guard has taken actions toward addressing five of the six recommendations we made in 2019 to help improve its management of shore infrastructure, but only fully addressed two of the recommendations.¹⁰ In 2019, we found that the Coast Guard did not meet or partially met six of nine leading practices for managing public sector maintenance backlogs, and we recommended it take steps to fully meet those six leading practices. As shown in table 3, the Coast Guard fully implemented two of our recommendations—that it develop a plan to standardize facility condition assessments and establish guidance on documenting inputs, deliberations, and project prioritization decisions for shore infrastructure maintenance projects. Specifically, in April 2020, the Coast Guard developed a new, standardized assessment format called the Facility Condition Assessment, as well as a plan with time frames for employing it. In addition, the Coast Guard issued new guidance establishing a standard process for conducting and reporting prioritization decision-making. Together, these actions will improve the transparency and accountability of the Coast Guard's shore infrastructure management processes.

Prior recommendation	Status (as of February 2025)	Example of Coast Guard actions taken and actions needed to fully address this recommendation
Develop a plan to standardize facility condition assessments	Closed – Implemented	Developed new, standard Facility Condition Assessments
Establish performance goals, measures, and baselines to track effectiveness of maintenance and repair efforts	Open – Partially addressed	Developed guidance establishing new measures—such as a Facility Condition Index—to aid consistent data reporting on shore infrastructure maintenance efforts. To close this recommendation, the Coast Guard will need to develop related goals and baselines for tracking the effectiveness of its efforts.
Work with Congress to routinely align shore infrastructure portfolio with mission needs, including by disposing of unneeded assets	Open	Updated guidance to formalize a process for aligning mission needs with assets and identifying unneeded assets. To close this recommendation, the Coast Guard will need to demonstrate its implementation of the updated guidance.
Establish guidance to document inputs, deliberations, and project prioritization decisions for shore infrastructure maintenance projects	Closed – Implemented	Issued new guidance that standardized the prioritization decision-making process and documented decision inputs and results.
Employ models for predicting investment outcomes, analyzing trade-offs, and optimizing decisions among competing investments	Open – Partially addressed	Selected the BUILDER model and is in the process of inputting facility condition data on all of its shore assets, which is expected to be completed around 2028. To close this recommendation, the Coast Guard will need to employ BUILDER's analytical models on its shore assets to predict investment outcomes, analyze trade-offs, and make resource allocation decisions that consider potential cost savings among priorities.

 Table 3: Extent to Which the Coast Guard Has Addressed Our 2019 Recommendations

 Related to Managing Its Shore Infrastructure

Prior recommendation	Status (as of February 2025)	Example of Coast Guard actions taken and actions needed to fully address this recommendation
Include supporting details about project alternatives and report trade-offs in congressional budget requests and related reports	Open	Since 2023, Coast Guard officials have been considering whether to publish annual shore infrastructure reports to inform Congress and the public of key information. To close this recommendation, the Coast Guard must find ways to report supporting details about competing project alternatives and trade- offs.

Source: GAO analysis of Coast Guard information. | GAO-25-107851

Note: We developed these recommendations by assessing the extent to which the Coast Guard met leading practices for managing public sector maintenance backlogs. See GAO-19-82. The leading practices were derived from reports published by the National Research Council of the National Academies of Science, Engineering, and Medicine and analyzed in a 2014 GAO report: GAO, *Federal Real Property: Improved Transparency Could Help Efforts to Manage Agencies' Maintenance and Repair Backlogs*, GAO-14-188 (Washington, D.C.: Jan. 23, 2014).

Delays in fully addressing our recommendations will likely have cost implications. For example, without employing models to predict investment outcomes and analyze trade-offs, DHS lacks information on how the Coast Guard could reduce the cost of managing its shore infrastructure. In 2019, we found that a Coast Guard proposal could have saved \$13.8 million by using a model to accelerate investment in aviation pavement sooner, rather than deferring such maintenance and recapitalization. However, the proposal was not implemented. According to Coast Guard officials, this proposal could have been applied to additional shore infrastructure assets.

As of February 2025, the Coast Guard has not fully implemented our related recommendation—to employ models for predicting investment outcomes, analyzing trade-offs, and optimizing decisions among competing priorities. Although the Coast Guard has selected a model, it will not be fully incorporated into all shore infrastructure facility assessments until 2028, according to officials. By not employing such models across its shore infrastructure, the Coast Guard is missing opportunities to potentially identify and achieve cost savings.

Moreover, without accurate and transparent information about the Coast Guard's budgetary requirements, Congress lacks critical information that could help to prioritize funding to address the Coast Guard's shore infrastructure backlogs. For over 10 years, we have reported on challenges in how decision-makers including OMB, DHS, and the Coast Guard—manage the Coast Guard's budget. For example, we have repeatedly found that the cost of the Coast Guard's portfolio—including shore infrastructure—does not align with the Coast Guard's plans and funding levels.¹¹

In 2019, we found that the Coast Guard was not providing Congress with accurate and transparent information related to the budget requests for its shore infrastructure. As a result, we recommended that the Coast Guard include supporting details about competing priorities and trade-offs in congressional budget requests and related reports. As shown in table 3, our related recommendation remains open as of February 2025.

We will continue to monitor the Coast Guard's efforts to address our recommendations, fully incorporate leading practices into its shore infrastructure management, and provide adequate levels of detail about the competing priorities and trade-offs. Doing so will help the Coast Guard manage existing resources more efficiently; support a clear, detailed budget request related to its shore infrastructure funding targets; and better position the Coast Guard and Congress to address long-standing shore infrastructure challenges.

Agency Comments

We provided a draft of this report to DHS for review and comment. DHS provided technical comments, which we incorporated as appropriate.

How GAO Did This Study

To conduct this work, we reviewed Coast Guard documentation on its management of shore infrastructure, such as the Shore Infrastructure Logistics Center Annual Reports, and Coast Guard policies for prioritizing recapitalization, construction, and maintenance projects. We also reviewed prior related GAO work and interviewed Coast Guard officials responsible for managing shore infrastructure to obtain their perspectives.

To describe the condition of shore infrastructure assets, we reviewed FY 2023 agency-reported data from the Coast Guard, which were the most recently available data at the time of our review. To assess the size of the Coast Guard's shore infrastructure project backlogs, we examined the Coast Guard's lists of 1) prioritized shore infrastructure procurement, construction, and improvements projects and 2) deferred depot-level maintenance shore infrastructure projects for FY 2024—the most recently available data at the time of our review. Together, these lists represent backlogs of projects the Coast Guard has identified as necessary to sustain its shore infrastructure assets and fulfill its missions.

We reviewed shore infrastructure budget data to describe the funding targets the Coast Guard identified as needed to address these backlogs. We reviewed Congressional Budget Justifications from FY 2019 to FY 2025 to identify requested and actual funding levels for shore infrastructure. We assessed the reliability of the data in our report and determined that the data were sufficiently reliable for the purposes of describing the Coast Guard's shore infrastructure assets, its project and maintenance backlogs, and its shore infrastructure budget.

We conducted this performance audit from September 2024 to February 2025 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.

List of Addressees

The Honorable Sam Graves Chairman The Honorable Rick Larsen Ranking Member Committee on Transportation and Infrastructure House of Representatives

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until March 5, 2025. At that time, we will send copies to the appropriate congressional committees, the Secretary of Homeland Security, and the Commandant of the Coast Guard. In addition, the report will be available at no charge on the GAO website at https://www.gao.gov.

GAO Contact Information

For more information, contact: Heather MacLeod, Director, Homeland Security and Justice, MacLeodH@gao.gov, (202) 512-8777.

Sarah Kaczmarek, Managing Director, Public Affairs, KaczmarekS@gao.gov.

A. Nicole Clowers, Managing Director, Congressional Relations, ClowersA@gao.gov.

Staff Acknowledgments: Andrew Curry (Assistant Director), Ben Nelson (Analyst in Charge), Nasreen Badat, Ben Crossley, Michele Fejfar, Paul Hobart, Phoebe Iguchi, Cristina Norland, Janet Temko-Blinder, Christopher Zubowicz.

Connect with GAO on Facebook, Flickr, X, and YouTube. Subscribe to our RSS Feeds or Email Updates. Listen to our Podcasts.

Visit GAO on the web at https://www.gao.gov.

This is a work of the U.S. government but may include copyrighted material. For details, see https://www.gao.gov/copyright.

Endnotes

¹The Coast Guard assigns condition grades based on factors such as condition, capacity, and funding, and uses standards developed by the American Society of Civil Engineers to determine the condition grades. According to the American Society of Civil Engineers, a "C" indicates an asset that is of mediocre to fair condition with signs of deterioration and increased vulnerability to risk.

²In 2019, we found that the Coast Guard had shore infrastructure backlogs that would cost about \$2.6 billion to address. GAO, *Coast Guard Shore Infrastructure: Applying Leading Practices Could Help Better Manage Project Backlogs of at Least \$2.6 Billion*, GAO-19-82 (Washington, D.C.: Feb. 21, 2019).

³We determined the cost of the backlogs by reviewing Coast Guard-provided data on the estimated costs of the Coast Guard's prioritized procurement, construction, and improvement projects; and depot-level maintenance projects as of June 2024. Procurement, construction, and improvement—which we refer to as recapitalization and new construction in our report—refers to the acquisition, procurement, construction, rebuilding, and improvement of shore facilities. It includes recapitalization, which the Department of Defense defines as major renovation or reconstruction activities (including facility replacements) needed to keep existing facilities modern and relevant in an environment of changing standards and missions. Depot-level maintenance refers to non-recurring, major maintenance projects that are beyond the capability and authority of a local Coast Guard unit to execute.

⁴In 2014, for example, we found that the Coast Guard faced significant issues regarding the affordability of its asset recapitalization plans. See GAO, *Coast Guard Acquisitions: Better Information on Performance and Funding Needed to Address Shortfalls*, GAO-14-450 (Washington, D.C.: June 5, 2014). We also found that the Coast Guard's management of its asset portfolio created a buildup of near-term unfunded acquisitions, negatively affecting recapitalization efforts and limiting the effectiveness of long-term planning. See GAO, *Coast Guard Acquisitions: Actions Needed to Address Longstanding Portfolio Management Challenges*, GAO-18-454 (Washington, D.C.: July 24, 2018).

⁵GAO, Coast Guard Acquisition: Actions Needed to Address Affordability Challenges, GAO-24-107584 (Washington, D.C.: June 12, 2024). The Coast Guard's buildup of maintenance and recapitalization affects not only shore infrastructure but major acquisitions as well. In 2025, we identified schedule challenges with the Coast Guard's Offshore Patrol Cutter Program. For example, delivery of the lead Offshore Patrol Cutter ship is now delayed by more than 4 years. See GAO, DHS Annual Assessment: Improved Guidance on Revised Acquisition Goals Would Enhance Transparency, GAO-25-107317 (Washington, D.C.: Feb. 25, 2025).

⁶Coast Guard officials have said that since virtually all shore infrastructure maintenance is unplanned and corrective, they cannot proactively complete planned, preventative maintenance. Instead, the Coast Guard must select only the highest-priority, highest-risk projects and defer many others. This creates a buildup of deferred maintenance and leads to more assets deteriorating over time, increasing the cost of future projects. According to officials, if annual funding for shore infrastructure were to continue at the FY 2024 funding level, the Coast Guard would not be able to fully address its backlogs. ⁷According to Coast Guard officials, the Coast Guard's requirements-based budget planning is based on industry standards that align with the National Academy of Sciences benchmarks for sustainable facility and infrastructure management. Those benchmarks recommend a budget of 2 to 4 percent of the value of assets that are being maintained. NRC, *Stewardship of Federal Facilities: A Proactive Strategy for Managing the Nation's Public Assets* (Washington, D.C.: National Academies Press: 1998).

⁸DHS has an overall deferred maintenance and repair backlog of about \$1.8 billion. The required supplementary information (unaudited) section of the DHS FY 2024 Annual Financial Report reports a department-wide deferred maintenance and repair backlog of more than \$1.8 billion, in accordance with Statements of Federal Financial Accounting Standards 42. DHS does not separately report this information by component. According to our analysis of Coast Guard information, the Coast Guard has a backlog of deferred depot-level maintenance that would cost at least \$877 million to address as of June 2024. We did not assess the Coast Guard's funding targets for depot-level maintenance, which varied from approximately \$234 million in FY 2019 to \$378 million in FY 2025, according to the Coast Guard. In our report, we refer only to funding targets for recapitalization and new construction.

⁹Actual funding levels are based on appropriated amounts. In 2019, we found that actual funding levels were below the Coast Guard funding targets for FY 2017 and FY 2018 as well. See GAO-19-82.

¹⁰GAO-19-82.

¹¹For example, see GAO-14-450, GAO-18-454, and GAO-19-82. For a summary of our prior work on the cost of the Coast Guard's portfolios, including acquisitions and shore infrastructure, see GAO-24-107584.