REBUILDING COAST GUARD INFRASTRUCTURE TO SUSTAIN AND ENHANCE MISSION CAPABILITY

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REMOTE HEARING

BEFORE THE

SUBCOMMITTEE ON
COAST GUARD AND MARITIME TRANSPORTATION

OF THE

COMMITTEE ON
TRANSPORTATION AND
INFRASTRUCTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED SEVENTEENTH CONGRESS

FIRST SESSION

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REBUILDING COAST GUARD INFRASTRUCTURE TO SUSTAIN AND ENHANCE MISSION CAPABILITY

TUESDAY, NOVEMBER 16, 2021

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COAST GUARD AND
MARITIME TRANSPORTATION,
COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:02 a.m., in room 2167 Rayburn House Office Building and via Zoom, Hon. Salud O. Carbajal (Chair of the subcommittee) presiding.

Members present in person: Mr. Carbajal, Mr. Larsen, Mr. Gibbs, Mr. Young, and Mr. Gallagher.

Members present remotely: Mr. Weber, Dr. Van Drew, and Mrs. Steel.

Mr. CARBAJAL. The subcommittee will come to order.

I ask unanimous consent that the chair be authorized to declare a recess at any time during today's hearing. Without objection, so ordered.

I also ask unanimous consent that Members not on the subcommittee be permitted to sit with the subcommittee at today's hearing and ask questions. Without objection, so ordered.

As a reminder, please keep your microphones muted unless speaking. Should I hear any inadvertent background noise, I will request that the Member please mute their microphone.

And to insert a document into the record, please have your staff email it to DocumentsT&I@mail.house.gov.

With that, I will proceed with my opening statement.

Good morning and welcome to today's Coast Guard and Maritime Transportation Subcommittee hearing on rebuilding Coast Guard infrastructure to sustain and enhance mission capability. We will hear from the Coast Guard Deputy Commandant for Mission Support, Vice Admiral Paul Thomas, and GAO Acting Director of Homeland Security and Justice, Ms. Heather MacLeod.

With infrastructure a national focus, today's hearing will highlight the need to invest in Coast Guard infrastructure, including $429 million in the recently enacted Infrastructure Investment and Jobs Act and $650 million more for shoreside infrastructure in the Build Back Better Act, which is currently under consideration.

As a sea service that is often stationed in remote locations and subject to extreme weather conditions, the Coast Guard is and always will be on the front lines. And as an agency whose roots date

back to our Nation's founding, including the U.S. Lighthouse and Lifesaving Services, its shoreside facilities are steeped with maritime history that define our early Nation. With this comes a key challenge: aging infrastructure.

Under constant attack by wind, waves, rain, sea-level rise, flooding, and storms, many of the Service's facilities are in critical condition. In 2019, GAO found that 45 percent of the Coast Guard's shore infrastructure assets were beyond their 65-year service life. The Service is operating with a nearly $3 billion facility maintenance, repair, and recapitalization backlog.

For reference, the Service estimates its shoreside facility inventory at $21 billion. On average, 10 to 15 projects are added to the backlog per year amounting to approximately $300 million to $450 million. It is imperative that Congress stop the annual growth of the backlog to sustain operations.

Not only does this impact the quality of mission-supporting facilities, but it threatens the health and safety of our servicemembers should critical failures occur at their housing and childcare facilities, or duty stations. Further, outdated facilities could be a demoralizing force over time, leading to lower workforce recruitment and retention.

The Service reversed its position on the GAO's 2019 recommendation to employ asset line models for predicting the outcomes of investments, analyzing tradeoffs, and optimizing decisions among competing investments. I am eager to understand why and hear the Coast Guard's plan to address this information gap, and that should say why the Coast Guard has decided to go in a different path on that issue.

The Service's data and IT infrastructure are similarly aging and in need of investment. While the Service has prioritized what it calls a tech revolution, its tech and data systems remain far behind the curve. The Service has been operating on 1990s-era hardware and software, which, according to Commandant Schultz, is at the "brink of catastrophic failure" and could affect communications between cutters and shoreside units.

The Coast Guard currently operates with a $300 million annual IT shortfall. In March 2021, the Service released its first data strategy, and in May 2021, its first cloud strategy. I look forward to hearing updates on these strategies and any progress on the tech revolution. I am eager to hear how the Coast Guard prioritizes investments in its shoreside facilities, IT networks, and data systems across the Service.

Congress just passed the Infrastructure Investment and Jobs Act, which, again, includes $429 million for Coast Guard infrastructure. I commend Chair DeFazio's work on this historic bipartisan legislation, which provides vital investments in the country's infrastructure.

Aging, failing, and condemned infrastructure presents an operational and mission-critical challenge. But this is also a great opportunity to invest in the Coast Guard to ensure it is resilient against more frequent and severe climate change hazards in the future. I look forward to a productive conversation on shoring up the Coast Guard's aging infrastructure.

[Mr. Carbajal's prepared statement follows:]

Prepared Statement of Hon. Salud O. Carbajal, a Representative in Congress from the State of California, and Chair, Subcommittee on Coast Guard and Maritime Transportation

Good morning, and welcome to today's Coast Guard and Maritime Transportation subcommittee hearing on "Rebuilding Coast Guard Infrastructure to Sustain and Enhance Mission Capability." We will hear from the Coast Guard Deputy Commandant for Mission Support, Vice Admiral Paul Thomas, and the GAO's Acting Director of Homeland Security and Justice, Ms. Heather MacLeod. With infrastructure in national focus, today's hearing will highlight the need to invest in Coast Guard infrastructure, including $429 million in the recently enacted Infrastructure Investment and Jobs Act and $650 million for shoreside infrastructure in the Build Back Better Act, which is currently under consideration.

As a sea service often stationed in remote locations and subject to extreme weather conditions, the Coast Guard is and always will be on the front line. And as an agency whose roots date back to our nation's founding, including the U.S. Lighthouse and Lifesaving Services, its shoreside facilities are steeped with maritime history that define our early nation. With this comes a key challenge: aging infrastructure. Under constant attack by wind, waves, rain, sea-level rise, flooding, and storms, many of the Service's facilities are in critical condition.

In 2019, GAO found that 45 percent of the Coast Guard's shore infrastructure assets were beyond their 65-year service life. The Service is operating with a nearly $3 billion facility maintenance, repair, and recapitalization backlog. For reference, the Service estimates its shore facility inventory at $21 billion.

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I'm eager to hear how the Coast Guard prioritizes investments in its shoreside facilities, IT network, and data systems across the Service. Congress just passed the Infrastructure Investment and Jobs Act, which included $429 million for Coast Guard infrastructure. I commend Chair DeFazio's work on this historic legislation, which provides vital investment in the country's infrastructure. Aging, failing, and condemned infrastructure presents an operational and mission critical challenge, but this is also a great opportunity to invest in the Coast Guard to ensure it is resilient against more frequent and severe climate change hazards in the future.

I look forward to a productive conversation on shoring up the Coast Guard's aging infrastructure.

Mr. CARBAJAL. With that, I would like to recognize Ranking Member Gibbs.

Mr. GIBBS. Thank you, Chair Carbajal.

And thank you to our witnesses for being here today, and it is great to see the Vice Admiral here in person.

In the 19 years since it signed the Integrated Deepwater System contract, the Coast Guard has made great strides in recapitalizing its oceangoing cutters and aircraft. However, there is a long way

left to go, particularly with the acquisition of the Offshore Patrol Cutter, the OPC.

Unfortunately, the Coast Guard is not only facing the acquisition bill for the OPC and new polar and Great Lakes icebreakers, but also a mounting maintenance and recapitalization bill to repair and replace aging shoreside infrastructure and the cost of nearly completely replacing the Coast Guard's faltering IT infrastructure.

I look forward to hearing from the witnesses today what processes the Coast Guard should implement to quantify its shoreside needs so that members of the Coast Guard and their families have safe places to work and live, the Service is able to carry out its increasingly complex missions, and shoreside facilities have an acceptable level of resilience to survive natural disasters.

I am particularly interested in learning the annual level of investment that would be necessary to prevent the maintenance and recapitalization backlog from growing every year, and whether the Service has the data necessary to make such a calculation.

I would also like to dig into the relationship between the unfunded priority list, the UPL, and the overall unfunded backlog. For instance, have items on the UPL undergone more rigorous review to determine their importance to mission capability and their readiness to move forward?

The Coast Guard's tech revolution, as it is characterized by the Commandant, is in its infancy. I look forward to learning how the Service intends to piggyback off existing programs for which they have already paid development costs. The composite hull vessel which the Coast Guard did not build, the electronic health records, logistics information management, and state-of-the-art ship-to-air-to-shore communications systems, none of which the Coast Guard ever implemented, prove that the Coast Guard does not have the resources or the internal expertise to develop such systems on its own.

Finally, I look forward to learning how the Service plans to stay current once it implements its tech revolution. IT systems change so rapidly, and the Service must, at the same time, both plan for the future and catch up with the present.

[Mr. Gibbs' prepared statement follows:]

Prepared Statement of Hon. Bob Gibbs, a Representative in Congress from the State of Ohio, and Ranking Member, Subcommittee on Coast Guard and Maritime Transportation

Thank you, Chair Carbajal, and thank you to our witnesses for being here today.

In the 19 years since it signed the Integrated Deepwater System contract, the Coast Guard has made great strides in recapitalizing its ocean-going cutters and aircraft. However, there is a long way left to go, particularly with the acquisition of the Offshore Patrol Cutter (OPC).

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Finally, I look forward to learning how the Service plans to stay current once it implements its Tech Revolution. IT systems change so rapidly the Service must at the same time both plan for the future and catch up with the present.

Mr. GIBBS. Thank you, Chair Carbajal, and I yield back.

Mr. CARBAJAL. Thank you, Ranking Member Gibbs.

I would like now to welcome the witnesses, Vice Admiral Paul Thomas, Deputy Commandant for Mission Support for the United States Coast Guard, and Ms. Heather MacLeod, Acting Director of Homeland Security and Justice for the United States Government Accountability Office. Thank you both for being here today, and I look forward to your testimony.

Without objection, our witnesses' full statements will be included in the record. Since your written testimony has been made a part of the record, the subcommittee requests that you limit your oral testimony to 5 minutes.

With that, Vice Admiral Thomas, you may proceed.

TESTIMONY OF VICE ADMIRAL PAUL F. THOMAS, DEPUTY COMMANDANT FOR MISSION SUPPORT, U.S. COAST GUARD; AND HEATHER MACLEOD, ACTING DIRECTOR, HOMELAND SECURITY AND JUSTICE, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Admiral THOMAS. Chairman Carbajal, Ranking Member Gibbs, members of the subcommittee, good morning and thank you for this opportunity to speak with you today about the Coast Guard's efforts to sustain and recapitalize our shore and IT infrastructure, infrastructure that you know is critical to our Service readiness and enables our mission execution.

I have to start by thanking this Congress, and this committee in particular, for your resolute support of the women and men of the United States Coast Guard. As you mentioned, our Service is in the midst of the most significant surface and air asset recapitalization since World War II.

The ships and aircraft we are building today will guard our Nation's shores for generations to come. But as our Commandant says, every Coast Guard mission begins and ends at a shore facility, and we must do better at building the infrastructure necessary to support this fleet of the future.

You have demonstrated an unwavering commitment to modernizing Coast Guard infrastructure as evidenced by this hearing today and by recent investments in our Coast Guard. While Coast

Guard personnel take intense pride in their efforts to support our operations, we continue to face challenges related to maintenance and recapitalization of our infrastructure.

Geographically dispersed across the Nation and around the globe, Coast Guard units range from large, operational, and industrial facilities in urban areas to small, tactical units in remote locations. Each of these facilities poses a unique maintenance challenge, and many are aging at a rate that stresses our ability to maintain or recapitalize them.

From 2017 to 2020, the Government Accountability Office undertook studies that examined how the Coast Guard manages its $21 billion real property inventory. The recommendations provided by the GAO shined a light on areas where we need to improve, and it led to our ongoing modernization of our civil engineering program and processes.

While our infrastructure challenges cannot be solved overnight, I can assure you that we are taking steps right now, largely based on the GAO recommendations, which will ensure the Coast Guard maintains the readiness that the Nation needs and deserves for its maritime first responders.

With your help, we are investing in modern resilient facilities that reduce risk to our people, our assets, and our missions. We are working to execute the nearly $1.2 billion in supplemental appropriations that Congress provided in the wake of the 2017 and 2018 hurricane seasons, and the nearly $2 billion major shore infrastructure appropriations that have been made since 2018.

Because critical infrastructure to support our modern fleet extends beyond traditional brick-and-mortar facilities, in 2020, the Service embarked upon a technology revolution. Designed to bring the Coast Guard into the 21st century, this effort is empowering our people with reliable, mobile, and integrated technology. Bolstered by funding in the CARES Act, we were able to maintain mission readiness during the global pandemic through investments in hardware, software, and network upgrades.

From mobility applications underway cutter connectivity, the strategic investments we are making now and must continue to make in the future across our IT systems ensure that we remain ready, resilient, and responsive.

The Coast Guard is also making investments in our most important resource, our people. Thanks to Congress, we can now access the Coast Guard housing fund and reinvest proceeds from divested properties into family housing needs. Over the past several years, we have emphasized improvement in construction projects for Coast Guard-owned housing, and we have resourced those projects through the housing fund. From Jonesport, Maine, to Kodiak, Alaska, we are constructing family housing units that are modern and adequately sized and serve our members and their families very well. The Coast Guard remains semper paratus, always ready, to answer our Nation's call. And reliable, resilient, modern infrastructure remains a cornerstone to Service readiness.

Thank you again for this opportunity to testify today and for your steadfast support of our Coast Guard, and I look forward to your questions.

[Admiral Thomas' prepared statement follows:]

Prepared Statement of Vice Admiral Paul F. Thomas, Deputy Commandant for Mission Support, U.S. Coast Guard

Good afternoon Chairman Carbajal, Ranking Member Gibbs, and distinguished members of the subcommittee. I appreciate the opportunity to testify today and thank you for your continued support of the United States Coast Guard.

The Coast Guard is a global maritime Service that provides capabilities to meet diverse and expansive national security needs. Possessing unique authorities that allow us to execute our organic missions, the Coast Guard operates daily with partner nations, local, state, and other Federal agencies to carry out law enforcement, regulatory, and emergency response missions. We maintain over 45,000 aids to navigation and oversee the Marine Transportation System, which accounts for more than $5.4 trillion annually in American economic activity and supports over 30 million jobs. Additionally, as a member of the U.S. Armed Forces, the Coast Guard supports Department of Defense operations by providing Joint Force capabilities for the Homeland and around the globe.

The demand signal for the Coast Guard has never been higher. The Coast Guard serves on the front lines for a Nation whose economic prosperity and national security are inextricably linked to its maritime interests. In this capacity, the Coast Guard protects and defends more than 95,000 miles of U.S. coastline and inland waterways, saves thousands of lives per year, and safeguards America's 3.4 million square nautical mile Exclusive Economic Zone, the world's largest. Our cutters and aircraft are operating around the globe to protect American interests. But to effectively and efficiently meet the increase in operational demands, the Coast Guard must rely upon a robust mission support element that ensures our men and women are ready to answer the call. Shore infrastructure is a vital component of that mission support because every Coast Guard mission begins and ends at a shore facility.

Managing the Department of Homeland Security's largest shore asset portfolio, the Coast Guard's sustainment of both new and aging facilities in a fiscally constrained environment presents unique challenges and requires strategic tradeoffs. We are making incredible headway on recapitalizing our operational assets such as cutters and aircraft, but that progress requires making hard decisions about our shore infrastructure.

As the Coast Guard modernizes into the 21st century, we must ensure that our infrastructure, like our assets and people, are literally prepared to weather any storm. As we work to build infrastructure resiliency, we must acknowledge this is not limited to only piers and buildings, but also servers, towers, and sensors that constitute our IT infrastructure system.

The Coast Guard is committed to ensuring the safety and resiliency of our facilities to meet mission demands. Based on the nature of our missions, Coast Guard facilities are located in areas prone to hurricanes, flooding, earthquakes, and other natural disasters. The Nation's reliance upon the Coast Guard to serve as a first responder after those disasters, underscores the importance of our facilities remaining ready for operations. Since the last Congressional hearing on the Service's shore infrastructure in 2019, the Coast Guard has proactively addressed climate related risks by engineering our new construction to be environmentally resilient. In alignment with the Department of Homeland Security Risk Management and Resilience Framework, the Coast Guard is working to identify critical missions and infrastructure at risk, assess vulnerabilities and liabilities, and determine solutions to execute resilience readiness. All new shore infrastructure projects follow configuration standards for new building design and construction, using updated International Building Codes to include seismic, wind loading, and flood resistant design and construction. For the Coast Guard, resilient infrastructure is not just simply maintenance and construction, it is about building shore plants that will enable the Coast Guard to fulfill its statutory responsibilities while protecting National interests.

Environmental stewardship is a hallmark of Coast Guard operations and a vital piece of addressing shore infrastructure needs. We are on the leading edge of integrating resilient and energy efficient projects and account for 92 percent of all facility energy reductions across the Department since 2003. We also lead the Department in leveraging Energy Performance Contracts, resulting in energy savings, onsite resilient energy generation, replacement of leaking roofs with solar power roofs, and the ability of sites to shelter-in-place while remaining operationally ready. As an example, in 2020, the Coast Guard Academy completed an infrastructure project funded through energy cost savings to increase the resilience and efficiency of the campus' 87-year-old infrastructure, resulting in a 43 percent reduction in energy consumption, and a 15 percent reduction in water consumption. Despite these

achievements, the Coast Guard continues to operate in and from aging and degraded shore facilities, over half of which are beyond their service life. When funded for critical repairs and recapitalization, the Service rebuilds to 21st century resiliency standards that ensure the Coast Guard can respond in crisis.

In addition to traditional shore facilities, the Coast Guard is also investing in modernized, reliable, and resilient IT infrastructure. In 2020, the Commandant announced the Service would embark on a "Tech Revolution," designed to bring the Coast Guard into the 21st century by empowering our people with reliable, mobile, and integrated technology. With Congress' support, we implemented a structured, "Whole-of-Service" approach to "deliver today's solutions today" and ensure that we have a mission-ready workforce. The 2020 Coronavirus, Aid, Relief, and Economic Security (CARES) Act provided over $85 million, which the Coast Guard used to make investments towards crucial modernization efforts, from hardware and network upgrades that facilitated remote work and telehealth capabilities, to modern data analytics tools. Additionally, our C5I Service Center is building modern software development infrastructure, to speed the deployment of mobile, secure applications. As we prepare for the future, the Coast Guard must maintain the momentum of the Tech Revolution's emphasis on IT infrastructure by modernizing enterprise network architecture and improving service delivery to government and industry stakeholders.

Currently, the Coast Guard is undergoing the largest recapitalization of its surface fleet since World War II. Our legacy cutters have served admirably but are well past their designed service lives. As we send new assets to sea, we must ensure that the logistics and support infrastructure is in place to sustain mission readiness. In cities like Seattle, Washington; Kodiak, Alaska; and Charleston, South Carolina; the Coast Guard is investing in strategic homeports that will support our modernized assets while taking advantage of commonalities across platforms. By clustering assets, the Coast Guard is able to provide a wider-range of depot-level maintenance and common repair activities necessary to field the assets of the future while reducing costs. We cannot rely on the buildings of the past to achieve the benefits of the future. From piers and runways, to unaccompanied personnel and family housing units, the shore infrastructure investments the Coast Guard is making today will ensure the Service's men and women remain at the highest levels of readiness to answer the Nation's call tomorrow.

As we modernize our fleet, we must also modernize our workforce. We must ensure that our training centers are equitable and capable of providing meaningful skills that translate to the fleet to meet the demands of a more technologically advanced workforce. The COVID–19 pandemic exposed the infrastructure limitations of the Coast Guard's sole enlisted accession point, Training Center Cape May, New Jersey. As a result, the Coast Guard recognized the need to accelerate planning for more resilient infrastructure that is capable of continuing recruit throughput necessary for workforce replenishment. Currently, Phase I of this project is undergoing survey and design efforts as current barracks and classroom facilities are in desperate need of recapitalization. As this project progresses, we will continue to add modern facilities that will house and train our future workforce. We are also recapitalizing barracks and industrial support facilities at the U.S. Coast Guard Academy to ensure the Coast Guard's future leaders can learn in a safe, accommodating environment. Additionally, at our training centers in Petaluma, Mobile, and Yorktown, we are building facilities capable of accommodating advanced training aids and simulators for our newest cutters, boats, aircraft, and IT systems.

Like all Federal Agencies operating within the reality of a constrained fiscal environment, the Coast Guard makes strategic tradeoffs each year to prioritize the most critical near-term operations and direct support activities while maintaining momentum on recapitalization efforts for capital assets and infrastructure. Operational facilities like bases, sectors, small boat stations, and aviation facilities, as well as family housing and support facilities are among the projects that we must balance based on mission demands. As we identify infrastructure projects, those determined to be the highest priority are incorporated into the Coast Guard's Annual Budget Submission. Until a few years ago, that budget submission was our only way to communicate infrastructure needs to Congress. However, in 2018, Congress authorized the Coast Guard's annual Unfunded Priorities List and provided the Service an additional medium to highlight vital projects that need our attention. Our Fiscal Year 2022 Unfunded Priorities List includes $120 million in critical facility improvements to support new cutters, $131 million in housing, family support, and training facility needs, $158 million for improvements and recapitalization of operational facilities, and $19.5 million to support operational assets and maritime commerce. As evident by recent budget and Unfunded Priorities List submissions, the Coast Guard is committed to addressing our shore infrastructure deficiencies.

The Coast Guard must also continue to seek strategic opportunities to divest infrastructure that no longer supports current mission needs. As our assets modernize, we are examining the future of the Service to make informed decisions about force laydown.

In 2021, Congress took a big step and helped us address one of our most pressing operational concerns; housing for our people, by allowing the proceeds from divested property and infrastructure to be reinvested back into Coast Guard unaccompanied personnel and family housing projects. This provides us the flexibility to address deficiencies and motivation to seek divestures where possible. To date, over $92 million has been reinvested in critical housing infrastructure that will benefit the work-life balance of our personnel. In doing so, the Service is pursuing an optimal shore facility inventory balance while simultaneously supporting our Service members and their families.

The Coast Guard's ability to address its shore infrastructure backlog would not be possible without the support of Congress. In 2018 and 2019, the Coast Guard completed $152 million worth of shore infrastructure recapitalization projects, improving the physical condition and resilience of facilities in Massachusetts, New York, New Jersey, North Carolina, California, Oregon, and Hawaii. We awarded $73 million in construction contracts for projects in Maine, Virginia, South Carolina, Texas, California, Alaska, and Guam. In 2020 and 2021, that amount more than doubled as the Coast Guard received $350 million to begin the buildouts of operational hubs in Seattle and Charleston, move the National Capital Region Air Defense Base from Reagan National Airport to Joint Base Andrews, and recapitalize housing for Station Eastport in Maine. Again, much like with our asset recapitalization, the investments in shore infrastructure we are making today will pay dividends for the Nation for decades to come.

Coast Guard shore infrastructure readiness is a critical component of the Service's ability to execute our 11 statutory missions. As the Commandant has stated, "Every Coast Guard mission begins and ends at a shore facility." Your stalwart support of our shore infrastructure needs, and that of the Administration, ensures the Coast Guard will continue to be *Semper Paratus*, Always Ready, to answer the Nation's call.

Thank you for the opportunity to testify before you today and for all that you do for the men and women of the United States Coast Guard. I look forward to your questions.

Mr. CARBAJAL. Thank you, Admiral Thomas.

We will now proceed. Ms. MacLeod, you may proceed.

Ms. MACLEOD. Chair Carbajal, Ranking Member Gibbs, and members of the subcommittee, thank you for the opportunity to be here today to discuss our recent and ongoing work on the condition and management of the Coast Guard's infrastructure. My testimony includes information from our work on these issues and the Coast Guard's progress in implementing recommendations we have made in these areas.

Coast Guard infrastructure assets are vast and include more than 20,000 facilities at over 2,700 locations. It has often been stated that Coast Guard missions begin and end at a Coast Guard facility. Good management of these facilities is critical to the success of Coast Guard operations.

However, our work has raised concerns, including challenges the Coast Guard faces in addressing its aging and vulnerable infrastructure. For example, our work identified that almost half of the Coast Guard's shore infrastructure is beyond its service life, resulting in costly recapitalization, construction, and maintenance project backlogs.

And as of 2019, these backlogs totaled more than $2.6 billion. In fact, in 2018, the Coast Guard estimated that it would take almost 400 years to address the $1.77 billion backlog of major projects it reported for that year. Also, it is likely that the estimated costs to address the backlog are understated.

This is particularly concerning, not only because of the amount of time needed to address the backlog, but because of other potential impacts. For example, we have identified that deferring maintenance can lead to higher costs in the long run while also posing risks to safety, security, readiness, staffing resources, and mission execution.

GAO has made recommendations to improve the Coast Guard's shore infrastructure management efforts, including reporting its needs more completely and accurately. Coast Guard concurred with all of these recommendations and in some cases has taken steps toward addressing them. Some of these steps include prioritizing critical infrastructure and incorporating resilience planning.

For example, the Coast Guard has a process to classify all of its real property under a tier system and establish minimum investment targets by a tier. Recent Coast Guard guidance prioritizes expenditures on shore infrastructure, such as piers or runways over administrative buildings.

And as Vice Admiral Thomas noted, the Coast Guard incorporated resilience into shore infrastructure planning, better positioning itself to prepare for, recover from, and successfully adapt to adverse events. These are promising steps.

And the Coast Guard could further improve management of its infrastructure with additional action in the following four areas, including employing models for predicting the outcome of investments and analyzing tradeoffs to achieve cost savings. Using such models would help the Coast Guard prioritize investments across its shore infrastructure portfolio, more efficiently managing resources by disposing of unneeded assets. Given the Coast Guard's competing acquisition, operational, and maintenance needs, and project backlog, this could help to mitigate some of its resource challenges.

Reporting shore infrastructure information more completely and accurately in congressionally required plans and budget requests. This additional detail could help the Congress prioritize funding to address the Coast Guard's shore infrastructure backlog.

Lastly, ensuring investments in data infrastructure address its mission and user needs. For example, we found past Coast Guard efforts to upgrade a key data system, MISLE, did not deliver some planned functionalities. Relatedly, we now have preliminary work reviewing a range of Coast Guard IT infrastructure and cybersecurity issues. This work indicates there may be gaps in how the Coast Guard has applied policies in meeting practices to management of its IT infrastructure and the associated workforce.

In closing, Coast Guard has taken some positive steps, but could do more to improve the management of its vast and aging infrastructure. This includes ensuring they have sound processes to prioritize projects and analyze tradeoffs among projects. GAO will continue to follow up with the Coast Guard on these issues.

This completes my prepared statement, and I would be happy to respond to any questions you may have. Thank you.

[Ms. MacLeod's prepared statement follows:]

Prepared Statement of Heather MacLeod, Acting Director, Homeland Security and Justice, U.S. Government Accountability Office

COAST GUARD: ACTIONS NEEDED TO BETTER MANAGE SHORE INFRASTRUCTURE

WHAT GAO FOUND

In 2019, GAO found that almost half of the Coast Guard's shore infrastructure was past its service life and the extent of costs to address its maintenance and recapitalization (major renovations) project backlogs may be understated. GAO also found that Coast Guard data showed at least $2.6 billion in costs to address its backlogs for its $18 billion portfolio of shore infrastructure.

The Coast Guard has taken initial steps toward improving how it manages its infrastructure. For example, in 2019 GAO found weaknesses in how the Coast Guard prioritized shore infrastructure investments. GAO recommended that it incorporate resilience—the ability to prepare and plan for, absorb, and recover from, or successfully adapt to adverse events—into its risk management. In 2021, the Coast Guard revised how it prioritizes infrastructure investments, including incorporating resilience into planning by, for example, identifying the infrastructure most critical to mission operations.

The Coast Guard continues to face challenges in ensuring that its infrastructure investments meet mission and user needs. For example, in 2019 GAO found that the Coast Guard has not provided accurate information to Congress about its requirements-based budget targets for shore infrastructure in its budget requests and its project backlogs. Specifically, Coast Guard recapitalization targets for shore assets were at least $290 million annually, but its budget requests for fiscal years 2012 through 2021 ranged from about $5 million to about $99 million annually (see figure).† GAO previously recommended that the Coast Guard include supporting details about competing project alternatives and report trade-offs in congressional budget requests and related reports. The Coast Guard agreed with GAO's recommendation. GAO continues to follow up on the status of the Coast Guard's actions in response to this and other prior GAO recommendations aimed at improving the Coast Guard's management of its infrastructure.

Chair Carbajal, Ranking Member Gibbs, and Members of the Subcommittee:

I am pleased to be here today to discuss our recent and ongoing work on the condition of the U.S. Coast Guard's shore and information technology (IT) infrastructure, and recommendations we have made to help improve its infrastructure management. The Coast Guard, a component of the Department of Homeland Security (DHS), maintains physical assets at over 2,700 locations where it owns or leases more than 20,000 facilities, including piers, boat stations, air stations, runways, and housing units. In addition, the Coast Guard relies on its IT assets, which include over 400 IT systems. In particular, the Coast Guard uses the Marine Information for Safety and Law Enforcement system to track and report mission results for nine of its 11 missions.[1]

In my testimony today, I will discuss (1) the condition of the Coast Guard's shore infrastructure, (2) actions the Coast Guard has taken to improve its management of shore infrastructure, and (3) challenges the Coast Guard faces to ensure that shore and IT infrastructure investments meet mission and user needs.

This statement is primarily based on four reports we issued from October 2017 through July 2020, as well as selected updates to those reports that we conducted through October 2021 regarding Coast Guard efforts to address our previous recommendations.[2] To perform our work for these reports, we analyzed relevant Coast

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† Editor's note: See figure 3 on page 17.

[1] Under 6 U.S.C. § 468(a), the Coast Guard's 11 statutory missions are (1) marine safety; (2) search and rescue; (3) aids to navigation; (4) living marine resources; (5) marine environmental protection; (6) ice operations; (7) ports, waterways, and coastal security; (8) drug interdiction; (9) migrant interdiction; (10) defense readiness; and (11) other law enforcement.

[2] GAO, *Coast Guard: Actions Needed to Close Stations Identified as Overlapping and Unnecessarily Duplicative*, GAO–18–9 (Washington, D.C.: Oct. 26, 2017); *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); *Coast Guard Shore Infrastructure: Processes for Improving Resilience Should Fully Align with DHS Risk Management Framework*, GAO–19–675 (Washington, D.C., Sept. 25, 2019); and *Coast Guard: Actions Needed to Ensure Investments in Key Data System Meet Mission and User Needs*, GAO–20–562 (Washington, D.C.: July 16, 2020).

Guard documents and management processes, as well as applicable budgets, laws, policies, and data for managing Coast Guard shore infrastructure. We also interviewed Coast Guard officials responsible for managing shore infrastructure and a key data system. Further details on the scope and methodology for these reports are available within each of the published products. In addition, for our selected updates through October 2021, we reviewed Coast Guard documentation and interviewed officials about actions taken to address recommendations from our previous reports.

This statement also includes preliminary observations from ongoing work related to Coast Guard IT infrastructure management efforts, which we expect to publish in multiple reports in 2022. For these forthcoming reports, we reviewed Coast Guard policies, procedures, and practices related to IT infrastructure and acquisitions; cybersecurity risk management; cloud computing; and cyberspace workforce. We compared these policies, procedures, and practices with evidence of the Coast Guard's actions to implement them. For each of the key areas of review, we interviewed knowledgeable Coast Guard officials.

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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

ALMOST HALF OF THE COAST GUARD'S SHORE INFRASTRUCTURE IS BEYOND ITS SERVICE LIFE

We found in February 2019 that the condition of the Coast Guard's shore infrastructure was deteriorating and that almost half (45 percent) was past its service life—resulting in recapitalization and new construction and deferred maintenance backlogs.[3] As of 2019, these backlogs totaled at least $2.6 billion. The Coast Guard owns or leases 20,000 facilities, which consist of various types of buildings and structures that are organized into five product lines and 13 asset types, known as asset lines.[4] For example, within its shore operations asset line, the Coast Guard maintains over 200 stations along U.S. coasts and inland waterways to carry out its search and rescue operations, as well as other missions, such as maritime security. In 2018, the Coast Guard graded[5] its overall shore infrastructure condition as a C minus,[6] on the basis of criteria it derived from standards developed by the American Society of Civil Engineers. Table 1 shows information about the number of assets, replacement value, service life of, and condition grades assigned by the Coast Guard for each of its asset lines for fiscal year 2018.

[3] GAO–19–82. According to the Coast Guard, its overall shore inventory has a 65-year service life, and its asset service life ranges from 6 to 75 years, depending on the type of asset.

[4] According to Coast Guard guidance, a building is generally defined as a fully enclosed structure that is affixed to the ground, in which personnel work or live or where equipment is stored. Buildings include regional operations centers, aircraft hangars, and houses. A structure is generally defined as any other construction affixed to the ground that does not meet the definition of a building. Structures include helicopter landing pads, docks, and aircraft runways.

[5] The Coast Guard assigned each asset line a letter grade to provide a snapshot of what the Coast Guard considered the condition of its shore infrastructure to be for that year. Considering eight attributes adapted from standards used by the American Society of Civil Engineers, the Coast Guard looked at (1) Capacity, (2) Funding, (3) Operations and Maintenance, (4) Resilience, (5) Condition, (6) Future Need, (7) Public Safety, and (8) Innovation. As noted by the Coast Guard's fiscal year 2018 shore infrastructure reports, these infrastructure grades provide a broad basis for performance analysis and consider how well the Coast Guard is able to achieve mission objectives in relation to its dependencies on shore infrastructure.

[6] According to the American Society of Civil Engineers, an "A" denotes generally excellent condition; a "B" denotes good to excellent condition; a "C" denotes mediocre/fair to good condition but showing signs of deterioration and increasingly vulnerable to risk; a "D" denotes poor to fair condition and mostly below standard; and an "F" denotes failing/critical, unfit for purpose, and in an unacceptable condition, with widespread advanced signs of deterioration.

Table 1: Asset Numbers and Replacement Values, Percent of Assets Operating Past Service Life, and Condition Grades of Selected Assets, for Fiscal Year 2018, as Determined by the U.S. Coast Guard

Asset line	Number of assets	Replacement value ($ in millions)	Percent of assets past service life [a]	Percent of assets operating more than 5 years past service life [a]	2018 condition grade [b]
Aviation	334	2,570	63	35	D
Base services	4,180	880	50	33	C–
Civil works	6,665	1,872	55	33	C
Community services	1,135	1,394	68	37	D+
Housing	2,901	2,923	28	26	B–
Industrial	52	467	57	38	D–
Sector/district	459	2,029	27	16	C
Shore operations	1,056	1,951	38	19	B
Technology	1,910	835	24	15	D+
Training facilities	174	421	35	25	C+
Waterfront	1,577	2,494	55	26	C–
Total	**20,433**	**17,835**	**46**	**29**	**C–**

Source: GAO analysis of U.S. Coast Guard documents. GAO–22–105513

Note: Table excludes two asset lines—fixed and floating aids to navigation and signal equipment—which are used to mark federal waterways to safeguard maritime safety and commerce.

[a] The Coast Guard does not have complete service life data on all of its assets. For example, the Coast Guard does not have data on the remaining service life for 16 percent of its aviation assets.

[b] According to the American Society of Civil Engineers, upon which the Coast Guard based its grades, an ''A'' denotes generally in excellent condition; a ''B'' denotes good to excellent condition; a ''C'' denotes mediocre/fair to good condition but showing signs of deterioration and increasingly vulnerable to risk; a ''D'' denotes poor to fair condition and mostly below standard; and an ''F'' denotes failing/critical, unfit for purpose, and in an unacceptable condition, with widespread advanced signs of deterioration. The formula the Coast Guard uses to assign grades is based on a number of factors, including the results of its facility inspections, and the percent of assets past service life is independent of the grade calculation. According to Coast Guard officials, some of its 2018 data on shore infrastructure may not be complete if field inspectors did not identify and record problems at facilities they inspected. As a result, condition grades could be overly positive.

The aging and deteriorating condition of the Coast Guard's shore infrastructure has led to deferred construction projects and maintenance backlogs. With almost half of its infrastructure past its service life, and given recent Coast Guard funding requests for its shore infrastructure, it will take many years for the agency to address these backlogs. For example, in 2018 the Coast Guard estimated that it would take almost 400 years to address the $1.774 billion recapitalization and new construction backlog it reported for that year—assuming an overall 65-year service life and that funding would continue at the fiscal year 2017 appropriations level.[7] This time frame estimate excluded the Coast Guard's $900 million deferred depot-level maintenance backlog, which had increased to $958 million, as of August 2021.[8]

Further, the size and estimated costs of the Coast Guard's backlogs may be understated. In February 2019, we found that 205 projects on the Coast Guard's recapitalization and new construction backlog lacked cost estimates compared with 125 projects with cost estimates.[9] Officials explained that they had not prepared cost estimates for these projects because the estimates were in the preliminary stages of

[7] The number of years it would take to address the backlog is dependent on appropriated amounts, which have varied considerably.

[8] Deferred depot-level maintenance consists of major maintenance tasks that are beyond the capability of an individual unit, such as replacing exterior doors and windows.

[9] GAO–19–82. In 2017, the Coast Guard removed 132 projects from its backlog that it determined were no longer necessary based on mission change, alternative solutions, or the need being met through another project. We did not assess the process the Coast Guard applied to remove projects from its list. The Coast Guard was not able to identify the estimated total cost for projects it removed.

development.[10] As we reported in 2019, these information shortcomings are consistent with previous findings and recommendations that the DHS Office of Inspector General has made.[11] We describe the status of our 2019 recommendation below.

THE COAST GUARD HAS TAKEN INITIAL STEPS TO IMPROVE ITS MANAGEMENT OF SHORE INFRASTRUCTURE

Our previous reports have identified various steps the Coast Guard has taken to begin to improve how it manages its shore infrastructure. Some of these steps align with leading practices for managing public sector backlogs and key practices for managing risks to critical infrastructure. These include identifying risks posed by the lack of timely investment, identifying mission-critical facilities, and beginning an assessment of shore infrastructure vulnerabilities. Specifically, the Coast Guard has done the following:

- *Identified risks posed by the lack of timely investment*. In February 2019, we found that the Coast Guard had a process to identify, document, and report risks to its shore infrastructure in its annual shore infrastructure reports for fiscal years 2015 through 2017.[12] These reports identified the types of risks the Coast Guard faces in not investing in its facilities, including financial risk, capability risk, and operational readiness risk. For example, as shown in figure 1, the Coast Guard has maintenance facilities that require refurbishment because they cannot accommodate newer, taller boats. The Coast Guard met this leading practice to identify risk in general terms—for example, in terms of increased life cycle costs, or risk to operations.

Figure 1: Coast Guard Maintenance Facilities Requiring Refurbishment because They Cannot Accommodate Newer, Taller Boats

Source: GAO. GAO–22–105513.

- *Identified mission-critical and mission-supportive shore infrastructure*. In February 2019,[13] we found that since at least 2012, the Coast Guard had documented its process to classify all of its real property under a tier system and had established minimum investment targets by tier as part of its central depot-level maintenance expenditure decisions.[14] These tiers—which range from

[10] In 2018, list of unfunded priorities, the Coast Guard's projected costs for individual shore projects with cost estimates ranged from $2 million to approximately $95 million per project. We did not evaluate the Coast Guard's cost estimating practices.

[11] In 2008, DHS's Office of Inspector General (OIG) found that Coast Guard funding for shore infrastructure was well below the industry standard—at 0.03 percent rather than the 2 percent standard for 2003–2006—and that, as a result, the Coast Guard had to use maintenance funds to execute Procurement, Construction, and Improvement projects, which the OIG reported could cause a critical situation with the structural integrity of Coast Guard shore facilities, and which, if uncorrected, could compromise the Coast Guard's overall operational capability.

[12] According to leading practices, agencies should identify the types of risks posed by not investing in deteriorating facilities, systems, and components because this is important for providing more transparency in the decision making process and for communicating with staff at all organizational levels. See 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).

[13] GAO–19–82.

[14] 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). Leading practices state that agencies should identify buildings as mission-critical and mission-supportive

mission-critical to mission-supportive assets—were incorporated into guidance that Coast Guard decision makers are to follow when deliberating project funding and to help them determine how to target funding more effectively. For example, Coast Guard guidance for fiscal years 2019 through 2023 prioritized expenditures on shore infrastructure supporting front-line operations, such as piers or runways, over shore infrastructure indirectly supporting front-line operations, such as administrative buildings.

- *Incorporated resilience into shore infrastructure planning*. In July 2021, the Coast Guard revised how it prioritizes shore infrastructure investments by aligning its processes for incorporating shore infrastructure resilience—the ability to prepare and plan for, absorb and recover from, or successfully adapt to, adverse events—into its shore infrastructure planning. Previously, in September 2019, we identified weaknesses in the Coast Guard's processes for incorporating resilience into its infrastructure risk management, including considering the extent to which infrastructure projects are the most critical to assuring that the Coast Guard could carry out its missions. For example, we found that the Coast Guard had not considered whether certain aircraft runways and other structures were vulnerable to flooding following a severe storm, or which were at greatest risk for flooding.

  We recommended that the Coast Guard revise its processes for improving shore infrastructure resilience, and the Coast Guard agreed with our recommendation. In July 2021, the Coast Guard informed us that its 2021 through 2025 civil engineering work plan prioritizes actions to identify the most operationally critical infrastructure. These are important initial steps toward incorporating resilience into shore infrastructure planning, which we will continue to monitor. As we have previously reported, by aligning its processes for improving shore infrastructure resilience with DHS's recommended risk management framework for critical infrastructure, the Coast Guard will be better positioned to reduce its future fiscal exposure to the effects of catastrophic natural disasters.[15] See figure 2 for an example of incorporating resilience into a Coast Guard facility.

Figure 2. Coast Guard Station in Sabine Pass, Texas, Damaged by Hurricane Ike in 2008 and Rebuilt in 2013 to Be More Resilient

LEFT: Station Sabine Pass, Hurricane Ike, category II damage to station.
RIGHT: Station Sabine Pass rebuilt to withstand 100 year flood, category III hurricane wind speeds.
Source: U.S. Coast Guard. GAO–22–105513.

COAST GUARD COULD FURTHER IMPROVE MANAGEMENT OF SHORE AND IT INFRASTRUCTURE

Although the Coast Guard has taken actions to begin to improve its shore infrastructure management, it continues to face challenges in ensuring that its investments meet mission and user needs for shore and IT infrastructure management. In particular, we found that the Coast Guard could improve its shore and IT infrastructure management in the following four areas:

- *Employ models for predicting the outcome of investments and analyzing trade-offs*. In February 2019, we found that a 2017 Coast Guard Aviation Pavement Study employed a model that determined the Coast Guard could more effi-

to help establish where maintenance and repair investments should be targeted, to ensure that funds are being used effectively.

[15] GAO–19–675.

ciently prioritize its investment in aviation pavement.[16] A subsequent Coast Guard aviation pavement plan recommended actions to use the study results and potentially save $13.8 million. However, the Coast Guard has not employed such modeling to prioritize investments to all of its shore infrastructure lines, potentially missing opportunities to identify and achieve additional cost savings. As a result, we recommended that the Coast Guard employ models for its asset lines that would predict investment outcomes, analyze trade-offs, and optimize decisions among competing investments. The Coast Guard agreed with our recommendation. As of April 2021, officials told us they are assessing modeling tools used by the Department of Defense and others, and plan to begin using models by the end of September 2023. We will continue to monitor actions the Coast Guard is taking to address our recommendations.

- *Dispose of unneeded assets*. In October 2017, we found that disposing of unneeded assets, such as closing unnecessarily duplicative boat stations[17] that were identified by the Coast Guard using a sound analytical process, could potentially generate $290 million in cost savings over 20 years.[18] Specifically, the Coast Guard analyzed its nearly 200 stations and identified 18 unnecessarily duplicative boat stations with overlapping coverage that could be permanently closed without negatively affecting the Coast Guard's ability to meet its mission requirements, including its 2-hour search and rescue response standard.[19] The Coast Guard has made multiple attempts in previous years to close such stations but was unable to do so due to congressional intervention and subsequent legislation prohibiting closures.[20]

  In February 2019, we recommended disposing of unneeded assets to more efficiently manage resources and better position the Coast Guard and Congress to address shore infrastructure challenges. The Coast Guard agreed with our recommendation. In April 2021, Coast Guard officials told us that they planned to consolidate four stations with larger adjacent stations as part of the fiscal year 2021 appropriations omnibus, in a step toward disposing of the 18 unnecessarily duplicative stations it identified in 2013. However, as of October 2021, officials have told us that the Coast Guard reconsidered the planned disposition of some unnecessarily duplicative stations and no longer plans to consolidate them. Given the Coast Guard's competing acquisition, operational, and maintenance needs, and its existing backlog of recapitalization and new construction projects, closing unnecessarily duplicative stations could help to mitigate some of its resource challenges.
- *Report shore infrastructure information more completely and accurately*. In February 2019, we found that the Coast Guard could increase budget transparency

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[16] To ensure that investment decisions are aligned with agency missions and goals, agencies should employ models to predict the future condition and performance of its facilities as a portfolio, according to leading practices. Leading practices state that agencies should align real property with mission needs. GAO–19–82.

[17] In 2010, federal law required that within departments and throughout the government, we identify programs, agencies, offices, and initiatives with duplicative goals and activities and report annually. Pub. L. No. 111–139, § 21, 124 Stat. 29 (2010), 31 U.S.C. § 712 Note. See GAO's Duplication and Cost Savings web page for links to the 2011 to 2017 annual reports: http://www.gao.gov/duplication/overview.

[18] GAO–18–9. In February 2019, we reported that leading practices state that agencies should efficiently employ available resources, limit construction of new facilities, and that facilities that are not needed to support an agency's mission should be disposed of whenever it is cost effective to do so. GAO–19–82.

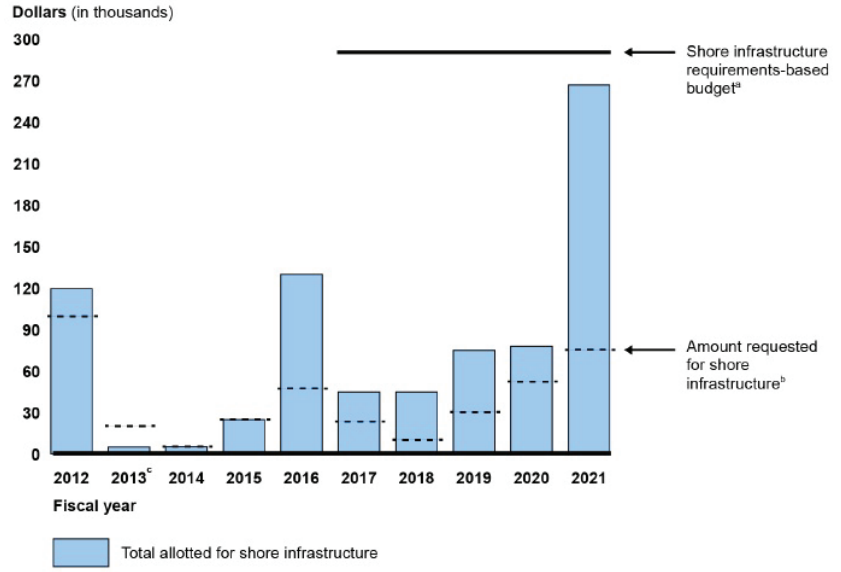
[19] Coast Guard guidance calls for its stations to plan to arrive to the scene of the search and rescue distress cases within their area of responsibility within 2 hours. U.S. Coast Guard, *U.S. Coast Guard Addendum to the United States National Search and Rescue Supplement to the International Aeronautical and Maritime Search and Rescue Manual*, COMDTINST M16130.2F (Washington, D.C.: January 2013).

[20] Department of Transportation and Related Agencies Appropriations Act, 1989, Pub. L. No. 100–457, 102 Stat. 2125, 2126 (1988). Id. at § 350, 102 Stat. 2125, 2156. See also, 14 U.S.C. § 910. See Howard Coble Coast Guard and Maritime Transportation Act, 2014, Pub. L. No. 113–281, § 225(b), 128 Stat. 3022, 3039 (2014). See also, 14 U.S.C. § 912. In 1990, we reported that the Department of Transportation's Inspector General recommended that the Coast Guard close 21 stations, and the Coast Guard recommended additional closures. See GAO, *Coast Guard: Better Process Needed to Justify Closing Search and Rescue Stations*, GAO/RCED–90–98 (Washington, D.C.: Mar. 6, 1990). We have reported on the Coast Guard's efforts to close stations over many years. In 1994, we reported that the Coast Guard had created a new process for determining the need for boat station changes. We also found that the new process included detailed criteria to evaluate the appropriate need for stations, such as boating and economic trends and the availability of alternative search and rescue resources. The Coast Guard then unsuccessfully attempted to close stations in 1995 using this process, and again in 2008. GAO, *Coast Guard: Improved Process Exists to Evaluate Changes to Small Boat Stations*, GAO/RCED–94–147 (Washington, D.C.: Apr. 1, 1994); See also, GAO–18–9.

for shore infrastructure by accurately reporting project backlogs and costs in congressionally-required plans.[21] For example, we found that the Coast Guard had not provided complete information to Congress in its Unfunded Priorities Lists of shore infrastructure projects, including information about trade-offs among competing project alternatives, as well as the impacts on missions conducted from shore facilities in disrepair.[22] This information could help to inform decision makers of the risks posed by untimely investments in maintenance and repair backlogs.

We also found that the Coast Guard had not provided accurate information about its requirements-based budget targets for shore infrastructure in its budget requests. According to the Coast Guard, a requirements-based budget is an estimate of the cost to operate and sustain its shore infrastructure portfolio of assets over the life cycle of the asset, from initial construction or capital investment through divestiture or demolition.[23] We found that Coast Guard targets for recapitalization of shore assets exceeded $290 million annually. However, its budget requests for fiscal years 2012 through 2021 ranged from about $5 million to about $99 million annually, and allotments ranged from about $5 million to about $266 million annually. (see fig. 3).

Figure 3: Coast Guard Allotments for Shore Procurement, Construction, and Improvements from its Appropriations and Shore Infrastructure Requirements-based Budget, Fiscal Years 2012 through 2021



Source: GAO analysis of U.S. Coast Guard documents. GAO–22–105513.

Notes: Current-year dollars.

[21] GAO–19–82. According to leading practices, agencies should structure maintenance and repair budgets to differentiate between funding allotted for routine maintenance and repairs, and funding allotted to addressing maintenance and repair backlogs.

[22] The term "unfunded priority" means a program or mission requirement that (1) has not been selected for funding in the applicable proposed budget; (2) is necessary to fulfill a requirement associated with an operational need; and (3) the Commandant of the Coast Guard would have recommended for inclusion in the applicable proposed budget, had additional resources been available or had the requirement emerged before the budget was submitted. See 14 U.S.C. § 5108.

[23] According to Coast Guard officials, its requirements-based budget planning is based on industry standards and that it aligns with the National Academy of Sciences benchmarks for sustainable facility and infrastructure management. National Research Council of the National Academy of Sciences, *Stewardship of Federal Facilities: A Proactive Strategy for Managing the Nation's Public Assets* (Washington, D.C.: National Academies Press, 1998).

Beginning in fiscal year 2019, the President's budget requests refer to Procurement, Construction and Improvements, which previously referred to Acquisitions, Construction, and Improvements in the annual fiscal year appropriations.

[a] Beginning in 2016, the Coast Guard started using a requirements-based budget to determine shore infrastructure budget needs and applied it for the first time with its fiscal year 2017 submission. According to this budgeting approach and Coast Guard officials, the Coast Guard's targets for recapitalization of shore infrastructure exceeded $290 million annually as determined by the U.S. Coast Guard.

[b] ''Amount requested'' represents the amount requested in the President's budget, as identified in the Coast Guard's fiscal year congressional justifications.

[c] Values for 2013 reflect sequestration.

As a result, we recommended that the Coast Guard include supporting details about competing project alternatives and report trade-offs in congressional budget requests and related reports. Without such information about Coast Guard budgetary requirements, Congress will lack critical information that could help to prioritize funding to address the Coast Guard's shore infrastructure backlogs. The Coast Guard agreed with our recommendation, but in July 2021, the Coast Guard informed us that while it concurs with the intent of our recommendation, addressing it is not feasible. We are in discussions with the Coast Guard about this recommendation.

- *Ensure that investments in data infrastructure address mission and user needs.* Our recent and ongoing work on the Coast Guard's IT infrastructure indicates that the Coast Guard could better apply certain decision processes as it manages investments in these systems. Specifically, in July 2020, we found that the Coast Guard could better invest in IT infrastructure to address challenges that limited its planning and other mission needs.[24] For example, we found that in the Coast Guard's most recent efforts to upgrade a key data system—Marine Information for Safety and Law Enforcement—it did not follow key systems development processes nor deliver some planned functionalities, such as the ability to remediate duplicate vessel records. While these efforts began in 2008, the Coast Guard has since initiated further efforts to obtain or develop undelivered functionality since the release of the upgraded system in 2015. However, in its fiscal year 2019 operational analysis of this system, the Coast Guard identified additional major system deficiencies and user dissatisfaction that it reported require consideration as it pursues system enhancements.

  As a result, we recommended that the Coast Guard take multiple actions; key among them was to follow its key systems development processes to identify needed enhancements, identify and analyze alternatives, and objectively select the preferred solution for its Marine Information for Safety and Law Enforcement system to meet approved mission needs. The Coast Guard agreed with all of our recommendations and described planned actions to address them. In May 2020, the Coast Guard notified us that it had decided to replace this system. It is too early for us to assess whether DHS and the Coast Guard are following the appropriate development steps to ensure that the replacement data system they eventually deploy will meets mission needs.

  In addition to following up on the status of actions the Coast Guard is taking to address the aforementioned issues, we have preliminary work reviewing Coast Guard policies, procedures, and practices for IT infrastructure, cybersecurity risk management, cloud computing, IT acquisitions, and cyberspace workforce. Our preliminary work indicates there may be gaps in how the Coast Guard has applied policies, procedures, and leading practices to management of its IT infrastructure and the associated workforce. For example, our preliminary observations suggest that the Coast Guard lacks complete and accurate hardware, software, and other equipment. They also suggest that the Coast Guard lacks network capacity planning capabilities that would assist it in forecasting network traffic demands and categorizing and prioritizing different types of data. We will complete our reviews of the areas above and publish our results in 2022.

Chair Carbajal, Ranking Member Gibbs, and Members of the Subcommittee, this completes my prepared statement. I would be happy to respond to any questions you may have at this time.

[24] GAO–20–562.

Mr. CARBAJAL. Thank you, Ms. MacLeod.

We will now move on to Member questions. Each Member will be recognized for 5 minutes, and I will start by recognizing myself.

Vice Admiral Thomas, I recently had a chance to visit Air Station Borinquen in Puerto Rico where many facilities were unusable due to hurricane damage. As a result, medical and childcare facilities were moved to station housing units. Captain Peña and the rest of her crew are doing their best to work with what they have, and I am under the impression that renovations are being planned for housing, the hangar, and other facilities at this location.

I know that the Coast Guard operates with limited resources, but investments made on infrastructure should be done responsibly and in a resilient fashion.

Admiral Thomas, given the facilities maintenance backlog, and the poor condition of the Coast Guard's infrastructure, has the Service assessed the risks to its infrastructure posed by natural hazards, including those driven by climate change? What effect does the decrepit infrastructure have on mission capability?

Admiral THOMAS. Chairman, thank you for the question, and thank you for visiting our team out there at Borinquen, and Captain Peña is a capable leader. I am sure you got that impression, and I know the crew enjoyed seeing you there. Borinquen is an example of one of those places that was impacted by the 2018 hurricane season, and funded by the supplemental money, so we are executing that money and rebuilding that facility.

But you asked me about our process to assess our facilities' vulnerabilities to climate change. We are in phase 2 of that assessment now. The first phase involved looking at all of our key facilities and determining which are vulnerable to which types of climate change-related incidents, whether it be flooding or fire or sea-level rise. Phase 2 is to go back and look real specifically at how resilient those structures are to those types of incidents. And then phase 3 would be to actually do the engineering to improve the resiliency.

So, we are working our way through that. That will take some time. As you know, when we do recapitalize our infrastructure, we do it to the latest standards for both sea-level rise and flooding, et cetera. So, when we have a chance to build new, we are building resilient. Thank you, sir.

Mr. CARBAJAL. Admiral Thomas, what about the impact that decrepit, deficient infrastructure has on mission capability and morale?

Admiral THOMAS. There is no question, our infrastructure is critical to our missions, and you can look at places around the Coast Guard where we have to do our mission differently and less efficiently because we have infrastructure problems. I will just give you a couple examples.

This week, earlier this week at our Coast Guard yard where our utilities are over 100 years old and need to be recapped to electrical distribution and the steam systems, we lost power for a couple of days. We need to recap the distribution system there, and that will make some of our ships come out of the yard late, which will impact our ability to operate them.

If you go to Kodiak, Alaska, or you go to Charleston, South Carolina, the piers there need to be recapitalized, and they require us to operate differently. In Kodiak, if the winds exceed about 40 knots, we have to move the ships. In Pensacola, where we have two piers that have collapsed, our ships sometimes need to get underway when they are not scheduled to be underway to free up the piers that we are borrowing from the Navy because they need it for one of their ships.

So, there are absolutely real impacts, but the good news is, in Pensacola, in the bill there is $28 million for us to recap there; Kodiak, $130 million for a recap there. So, we are getting after it, sir, but you are absolutely right, a lot of operational impacts.

Mr. CARBAJAL. Thank you.

Ms. MacLeod, as part of your testimony, you stated that the Coast Guard has given its infrastructure a grade of C-minus on average, which the Coast Guard defines as "mediocre, in fair to good condition but showing signs of deterioration and increasingly vulnerable to risk."

Do you agree with that assessment? And what specific actions should the Coast Guard implement to incorporate natural hazard and climate change resilience into its infrastructure recapitalization, repair, and maintenance projects?

Ms. MACLEOD. Thank you for that question. Yes, the Coast Guard has made its own grade in this area and applying the industry standards. It is hard to know what the Coast Guard's greatest needs and priorities are without more information on how it is assessing individual projects.

As noted, the Coast Guard is making progress in the area of resilience in terms of new construction and major renovation, and we think those are steps in the right direction, and we will continue to monitor them.

Mr. CARBAJAL. Thank you. I am running out of time, so I will now proceed with Representative Young.

Mr. YOUNG. Thank you, Mr. Chairman.

Thank you, Mr. Gibbs.

And thank you, Admiral, for the testimony.

I have been a big supporter of the Coast Guard for years, and I am proud to say that I have watched the Coast Guard with two bases when I first started here 48 years ago. Now we have got probably more bases than anyplace in the United States, and because we got more water, that helps out.

But I want to thank you for your comments on Kodiak, and that leads me to my question. There is $429 million for projects in the infrastructure bill, where I learned—I was a traitor and a few other things. But how do you plan on spending that money or—you mentioned Kodiak. Are there any other areas in Alaska that you would be interested in expanding the role of the Coast Guard?

Admiral THOMAS. Thank you for the question, Mr. Chairman. We are excited about expanding our operations in Alaska. Our people love to serve up in that State, and they love to serve the people of that State, and we're excited about sending six of our FRCs up there. We are working on home ports for those in Ketchikan and Kodiak and Sitka and Seward.

The bill that you mentioned has some money specifically marked for an increase in additional housing in Kodiak, which is going to be vital as we move OPCs up there. We are going to build out that home port. And then future investment in Alaska is getting Kodiak ready for the OPCs and the FRCs.

We have just recently cut the contract that we will make Ketchikan a temporary home port for the FRC that will eventually end up in Sitka. We expect that home port to be built out by fiscal year 2024. That hull gets delivered this fiscal year. So, we are moving into Alaska, and we really appreciate your support.

Mr. YOUNG. I appreciate the answer, too. There is a little of what you call regional conflict because we are looking at icebreakers and other Coast Guard vessels, and some people in the lower 48 want them stationed there, which is a long ways away and costs a lot of money.

We have facilities in Alaska, and I am proud to hear that you are talking about the housing. That is one of our biggest challenges to the Coast Guard corps is making sure we have the proper housing for the people that are wizened and children, where the crewmen can go out and do the rescue work and the identification.

What about the Saint Paul Island, have you made any decisions yet, or are you going to make one on utilizing it as operational capacity?

Admiral THOMAS. Yes, we absolutely like to operate out of Saint Paul as one of the three or four operating locations that we utilize particularly when we know where the fishing fleet is going to be and we need to have an enhanced search-and-rescue posture.

As you know, we had a fire at the facility there about 2 years ago, so we need to rebuild it. That work is contracted. It should be completed by this coming spring. And then we have a couple issues with the hangar there, which is not Coast Guard-owned, but we are negotiating with the landlord to get some improvements there. So, we hope to be back into that forward-operating location early next year.

Mr. YOUNG. Now, one of the things that concerns me is that for the first time, we have the military, Air Force and Navy—and actually, the Navy used to be up there—starting to consider the Arctic. Are you all working together as the Arctic decisionmaking group, or are you separated programs and one——

Admiral THOMAS. We have——

Mr. YOUNG. Yes, go ahead.

Admiral THOMAS. Well, yes, we have joint service talks on all the areas of operation. In the Arctic, we work most closely with Army Corps of Engineers, of course. But our commander, who is in the 17th Coast Guard District, is coordinating with his peers across the services on a daily basis.

Mr. YOUNG. Yes, Admiral, the reason for my interest in this, for the members of the committee, a lot of activity in the Arctic now. But mainly, that is where the minerals are that we need to utilize for the new society: graphite, lithium, the whole bit is up there. And China is very actively involved in the Arctic, and they have nothing to do with it, but they are there. And Russia, of course, is way ahead of us in the icebreaking capability.

We hear a lot about icebreakers. I have supported, and I want to have an icebreaker, and there is money to build one. But the biggest thing we need is the support facilities: Port Clarence, even as far north as Barrow; Kodiak you talked about already; Saint Paul. I can go down—Nome—because this is the big issue and the future of America is the Arctic. And you are going to play a major role, like I say, you always have.

We have given you a lot of responsibilities over the years and sometimes haven't funded you, quite a few times. And this is our role in this committee to make sure you get the proper funding, and your mission is really dedicated to what your mission is charged with, rescue, search, and protection. So, I do appreciate your work in the Coast Guard. And for those in the audience, thank you. And for the Admiral, thank you for your testimony.

And, Mr. Chairman, with that, I yield back the balance of my time.

Admiral THOMAS. Thank you.

Mr. CARBAJAL. Thank you, Representative Young.

We will now move to Representative Larsen.

Mr. LARSEN. Thank you, Mr. Chair.

Admiral, can you address the basic question—the President just signed the infrastructure bill, included $429 million to the Coast Guard. What is the Coast Guard's plans to invest those dollars, and specifically into the subject matter we have today, the shoreside infrastructure?

Admiral THOMAS. Thanks for the question, and again, thanks for the tremendous support of the Coast Guard. $429 million will certainly help us get after this infrastructure backlog. I think there is about $130 million or so that is going to go to housing improvements and some improvements at our training centers. There is about $158 million or so that we are looking at major shore infrastructure that supports our cutters, $120 million that is directed toward improvements or construction of new child development centers. So that money will definitely be put to good use. I don't know precisely where all those projects are yet, sir, but we can certainly, as we develop those plans, keep you well-informed.

Mr. LARSEN. Yes, thanks. And there is a lot in my district, you should know that.

Admiral THOMAS. Yes.

Mr. LARSEN. Or probably not, but we will figure that out as we move forward.

So, this week in the Northwest, we have had some pretty severe storms, extreme weather. And so, as we talked earlier, can you walk through the process that your local commanders go through to do damage assessments on shoreside infrastructure when you have storms like this and what the timeline is for making the investment into the repairs?

Admiral THOMAS. Sir, we have been watching from afar the developments on the Pacific Northwest and the weather and certainly send our sympathies to those who were adversely impacted by that weather. We have unfortunately a lot of experience in doing damage assessment after weather events on coastal facilities.

The process, the local commanders will do the first assessment when they can get back into a unit if they had to leave. And then,

if there is significant damage or they just think they need higher lever assistance, we have damage assessment teams that we flow into there, which are experts, civil engineers, et cetera. And those assessment teams will then call in repair teams to make the first-level repairs in order to really stop the damage. But that is the process, sir. We have a lot of experience. I have not heard of any damage reports yet from the 13th District.

Mr. LARSEN. OK. Thanks.

And then I want to shift to GAO, if I could, to Acting Director MacLeod. In your assessment of critical infrastructure up at the Coast Guard, do you calculate or how do you calculate climate resiliency into your cost estimates? Is this something that is additional? Is it folded in? Is it not counted at all?

Admiral THOMAS. Sorry, sir, the question is for me?

Mr. LARSEN. No, it was for Acting Director MacLeod.

Ms. MACLEOD. Yes, thank you for that question. And when we reviewed the Coast Guard's practice in this area, we did find some gaps in the analysis here. And as I noted, they are making steps in this area, especially for new construction and major renovations.

This is an area that we have seen some progress and will continue to monitor for the Coast Guard, but this should really be considered for all projects in the analysis of the cost estimates, and will really help in the tradeoffs among projects, considering the tradeoffs.

Mr. LARSEN. Thank you. What standards do you use in order to fold in a climate resiliency premium?

Ms. MACLEOD. Well, that is really up to the Coast Guard what standards, but they—yes, I could take that question for the record in terms of other practices that GAO has done in this area, but the Coast Guard is evaluating different models for this.

Mr. LARSEN. Thank you. Well, I guess I will go back to Admiral Thomas then for the answer to that question.

Admiral THOMAS. Well, sir, when we are recapitalizing, building a new facility with significant renovations then we use the industry standards for resiliency that are pretty well laid out. We use environmental standards in the lead standard.

What I think you are asking me is as we look at our maintenance backlog or our recapitalization backlog how we roll in that and we are just in the infancy of doing that, sir. That is the vulnerability assessment that I spoke to, and I don't know where those numbers will go, sir, once we roll that in.

Mr. LARSEN. OK. That is great to know. I appreciate that.

With that, Mr. Chair, I will yield back. Thank you.

Mr. CARBAJAL. Thank you. We will now move on to Representative Gibbs, Ranking Member Gibbs.

Mr. GIBBS. Thank you, Chairman Carbajal.

The Coast Guard has had a lot of challenges and not really a lot of success in developing their IT system over the years, especially the failed electronic healthcare and logistics management systems being the most spectacular. In both the cases, Coast Guard is seeking to use Department of Defense systems, which will save development costs and shorten the implementation timeframes.

After years of patching what we call the Marine Information for Safety and Law Enforcement, MISLE, a basic tool used by the

Coast Guard—and we all know it is really a database system to store data for pollution incidents, marine accidents, search-and-rescue cases, law enforcement activities, tracking Coast Guard's regulatory enforcement, et cetera—in May of 2020, the Coast Guard decided to replace this system.

Admiral, does the Coast Guard plan to look for an already-developed platform at other Federal agencies or other Armed Forces to save time and development costs?

Admiral THOMAS. Ranking Member Gibbs, thank you for the question. And there is no doubt you are correct that we have struggled with IT acquisitions, and the reason for that is that we have not looked at them as operational platforms. That changed several years ago. We have now modernized how we acquire, how we set requirements, acquire, and sustain our IT systems because they are operational assets just like a cutter or a ship.

So, I am happy to report that we have now gone live with our electronic medical records across the country. We are the first service to achieve that. You asked about how we use other services. We are doing some mobile applications for our recruiters, for example. We are borrowing an Army program for that. We are doing some work for our marine inspectors that brings MISLE to mobile. So, we definitely look to our peers for solutions that have worked for them and see how we can incorporate them, and we will do that as we recapitalize MISLE.

Mr. GIBBS. Because I think there has been a reluctance in the past to change the operational systems, right, or to integrate them?

Admiral THOMAS. I am sorry, sir?

Mr. GIBBS. I think there has been some reluctance in the past to—not wanting to change the operational systems?

Admiral THOMAS. Change is always hard. I think we are past that, sir, and particularly because we modernized the process that we use to develop requirements and then find the solutions to those requirements. We are doing it a lot more like we do for buying a ship or an airplane, and that is a big improvement.

Mr. GIBBS. And then, of course, I know Ms. MacLeod, in her oral testimony, kind of alluded to the challenges of this. And the GAO has recommended that the Coast Guard follow its key system development processes to identify enhancements and analyze alternatives and all that, and the Coast Guard has agreed to those recommendations.

Now that the Coast Guard has decided to replace MISLE, will it continue to follow the GAO's recommendations in selecting and acquiring the new system?

Admiral THOMAS. Yes, so we are thankful to the GAO for the work that they have done for us and the continued engagement as we work to implement those recommendations. We have been able to close out two of them, and we are working on closing a third, which would leave about seven. So, we are not turning back. We really have used the GAO report to stimulate a modernization effort, particularly in our civil engineering, so we will continue to follow those recommendations.

Mr. GIBBS. It has also come to my attention that the committee has been told that the best way to find pre-MISLE information is for us to file a Freedom of Information Act request. Will informa-

tion currently in MISLE be available in the new version of the system?

Admiral THOMAS. That is absolutely the goal, sir, and really, that is part of our data for decision efforts. We are trying to build an integrated data environment where all that MISLE information would be, and right now, our data is accessible vertically only. We need to make it accessible horizontally, and that will allow us to answer those types of data calls.

Mr. GIBBS. That is good. I am glad to hear that.

Also, Vice Admiral, in your testimony, you state, "As we modernize our fleet, we must also modernize our workforce." Obviously, I think everybody here agrees with that. In 2010, as part of what was called modernization, the Coast Guard implemented structural changes both in the field and in senior leadership, and it actually created your position.

After more than a decade, the Coast Guard has a long way to go to complete this modernization of its workforce. On what percentage of the Coast Guard workforce have manpower requirements analyses been performed and on how many of the 158-unit types?

Admiral THOMAS. That is an ongoing effort for us, as well as the manpower requirements assessments. We worked to really refine the tools that we used to get that done. In some areas those tools are working very well, in our sector staffing model, for example. In others, we are still maturing it, for example, on how we man our bases. I don't have an exact percentage for you, sir.

Mr. GIBBS. OK. Let me ask this final question because I am about out of time. When does the Coast Guard plan to complete the implementation of the 2018 manpower requirements plan?

Admiral THOMAS. I am sorry, sir? I didn't——

Mr. GIBBS. OK, you have got the 2018 manpower requirements plan completed, when do you plan to have that implemented?

Admiral THOMAS. I will have to take that for the record. As I said, that is an ongoing effort. It is a big effort, and we have been focusing on getting the right tools in place so the assessment itself is valuable.

Mr. GIBBS. OK. Thank you. I yield back.

Mr. CARBAJAL. Thank you, Representative Gibbs.

Next, we will move on to Representative Weber.

[Pause.]

Mr. CARBAJAL. Representative Weber?

[Pause.]

Mr. CARBAJAL. I saw Representative Weber online, so we will move on.

Representative Steel?

[Pause.]

Mr. CARBAJAL. Representative Van Drew?

Dr. VAN DREW. I am here.

Mr. CARBAJAL. There he is, good. Representative Van Drew, you may proceed.

Dr. VAN DREW. Minor technical difficulty there.

Mr. CARBAJAL. You may proceed, Representative Van Drew.

Dr. VAN DREW. Thank you. Thank you, Chair.

Good morning, Vice Admiral Thomas, and thank you for appearing before the House Subcommittee on Coast Guard and Maritime

Transportation to discuss the United States need to ensure that our Coast Guard is prepared for the 21st century.

The U.S. Coast Guard is expanding operations across the country, of course, as you know, and across the world. Whether executing icebreaking missions in the Arctic Circle or conducting search-and-rescue operations off the U.S. shoreline, the Coast Guard has a lot to do and plans on doing even more in the coming decades.

We can build all the cutters in the world, but we need personnel training to operate those vessels. Most of those personnel come through the training center in Cape May, in my district, as you know. Training Center Cape May is the Coast Guard's sole accession point for its enlisted workforce. Eighty percent of the Coast Guard's total workforce is absorbed through the Training Center Cape May.

The facility's existing barracks were constructed in the 1960s, and they are in serious need of modernization. I was really pleased to work with Commandant Schultz to get phase 1 of the Training Center Cape May recapitalization project listed as the Coast Guard's number one housing shore infrastructure budget priority for 2021.

This year, Congress will be appropriating $65 million to enable phase 1 of this four-phase project. The barracks recapitalization will increase the training center's capacity by 1,000 additional servicemembers in a year. This investment ensures that the Coast Guard will have the workforce it needs to accomplish its mission at home and abroad, and to create far greater opportunities also for women in the Coast Guard.

When the training center was last upgraded, the appropriations cycle fell short, and now its facility is short an entire barracks. We cannot allow this to happen again. It is imperative that this current project not fall short. The Congress is funding phase 1 in fiscal year 2022, and I believe that we should move to fund phase 2, 3, and 4 over the next 3 fiscal years, so that the entire project cycle is provided for when phase 1 is initiated in 2024. Recent meetings with the Coast Guard budget and engineering team confirm that the year-over-year approach is feasible and strategic. This project is too important for us to take half measures.

So my question would be, Vice Admiral Thomas, please speak on why the Training Center Cape May recapitalization is a top priority for the Coast Guard, and how this project will produce some more modern and capable Coast Guard workforce and just how important it is. It will come out better out of your mouth than it actually does mine because you live it, so thank you.

Admiral THOMAS. Congressman Van Drew, thank you for the question and thank you for all your support for our facility at Cape May. And I know you have visited there several times, and that is always appreciated as well. You are absolutely right, Cape May is the heartbeat of our Service in terms of where we assess new Coast Guard men and women.

And unlike the other services, or more so than most the other services, our men and women seem to stay around in service longer. So, we need modern facilities there. One of the reasons we

need modern facilities there is so that we can compete with the other services.

If you walk on to the training center the Navy keeps up in the Great Lakes, you see a state of their facility that is really attractive to young people who are looking to find a career. That might not be the case at Cape May. But with your help, we are going to rebuild those barracks in four phases, add some modern facilities that will allow us to do our physical training indoors, because right now it doesn't matter what that Cape May weather is, our recruits are outdoors. So, it is absolutely a Service imperative for us, and we appreciate your support, sir.

Dr. VAN DREW. Well, I appreciate you, Vice Admiral, and the job that you do. And let me just say, as far as the weather in Cape May, it is always sunny and beautiful, so no worries about that. And I yield back.

Mr. CARBAJAL. Thank you very much.

Representative Weber?

[Pause.]

Mr. CARBAJAL. Representative Steel?

[Pause.]

Mr. CARBAJAL. Seeing no more Members going in the first round, I will now recognize each Member for an additional 5 minutes of questions, and I will start by recognizing myself.

As I mentioned in my opening statement, limited access to housing forces Coasties to live far away from their duty stations oftentimes. Limited childcare infrastructure forces Coasties to split parenting duties with their partners, and reduces quality family time, and continued facility issues degrades the workplace experience.

The Infrastructure Investment and Jobs Act is an important first step to improving the quality of life for Coasties by providing funds to address deteriorating facilities. I also hope that the Build Back Better bill, which provides another $600 million for Coast Guard infrastructure, is enacted soon. This will bring the total investment in the Coast Guard to $1 trillion [sic].

Admiral Thomas, how will these investments help the Coast Guard recruit and retain its talented servicemembers?

Admiral THOMAS. Well, Chairman, first of all, thank you because you are rightly focused on our workforce and their families. They are the only way we get our mission done and are essential to Service readiness.

The access to childcare and access to housing challenge for the Coast Guard is very different than it is for the other services, because we are not a garrisoned force, we don't operate out of large bases, so it is harder for us to centralize those types of services. We operate in small, remote locations.

So, our ability to support our members and their families, whether it be through childcare or housing or access to healthcare, is absolutely vital to our ability to recruit and to retain. The two are linked. And what we like to do is use our entire brand. Our missions are compelling to people to join our Service, but our missions combined with world-class support to members and their families, that is very compelling. And that is why it is so critical to our ability to recruit and retain, and we thank you for your continued focus and support.

Mr. CARBAJAL. Thank you. Coast Guard's technology revolution roadmap describes initiatives to improve IT infrastructure and cutter connectivity, among other things. The Service states it has completed many of the actions to address those initiatives, such as improving remote access, doubling cutter bandwidth, and increasing cutter connectivity coverage areas.

Admiral Thomas, from your perspective, do you believe that those initiatives received adequate funding and have accomplished what they were intended to do?

Admiral THOMAS. Again, thanks for the question. The tech revolution is an important effort. Someone earlier made the point that it really can never end. You never finish because tech continues to revitalize or to, you know, need to be recapitalized, and so, we know that we are not done and we need to push.

We invested about $100 million in fiscal year 2021, about $90 million or so is coming. That is not adequate. We are trying to catch up and then we have to keep up, so we need recurring—regular, reliable, predictable—recurring IT investments that are keeping up with inflation.

Mr. CARBAJAL. Thank you.

Ms. MacLeod, I am curious to hear the GAO's perspective on whether the Coast Guard receives adequate funding and its progress towards tech revolution targets. What are the biggest challenges with the Coast Guard's current IT infrastructure, and what efforts are underway to mitigate those challenges?

Ms. MACLEOD. So, our work has shown in this area that the Coast Guard could be more transparent in its budget requests and information. This type of information and additional detail could better support budget requests and better document tradeoffs and analysis.

Our work on the Coast Guard IT systems and some of these initiatives that we are discussing right now is really in the early stages. But we do have a number of studies underway at the Coast Guard, as we do in other Federal agencies across the Government, looking at how the systems are procured and come in online, as well as the sufficiency of the workforce that supports this IT revolution. So, we will continue to look at these areas. As I said, we have a number of studies underway that we will be completing in 2022.

Mr. CARBAJAL. Thank you.

Admiral Thomas, if Congress were to provide increased funding for Coast Guard IT infrastructure, what would it allow the Service to do for its servicemembers operationally?

Admiral THOMAS. Well, regular, reliable funding allows us to plan for both improvements in recapitalization of critical systems that will put in the hands of our people technology that is mobile, that is reliable, and that is integrated, and that will unlock their potential to complete our missions in ways that we probably can't even think of today.

Mr. CARBAJAL. Thank you very much.

Now I will go to Ranking Member Gibbs.

Mr. GIBBS. Thank you.

Ms. MacLeod, the GAO estimated in 2019 that 45 percent of the Coast Guard's shoreside infrastructure was beyond its anticipated

service life of 65 years, and I can go on and give you more statistics. We all know that, the challenges.

But, I guess, my first question will go to Vice Admiral Thomas, and then Acting Director MacLeod. How does the Coast Guard compare and prioritize cutter and aviation assets, shoreside maintenance, recapitalization needs, and IT recapitalization when determining how to carry out your mission to the greatest extent practicable?

Admiral THOMAS. Ranking Member Gibbs, thanks for the question. Obviously, that is a multidimensional math problem. We are talking about trading off—I mean, we are a seagoing service. We operate on and above the sea. We prioritize recapitalization of our ships and our airplanes so that we can conduct our missions.

When it comes to how do we prioritize our shore infrastructure, you consider the complexity of that inventory, it ranges from buildings and runways and piers to towers and antennas, and then you combine that with our need to maintain and recap existing infrastructure as we build new infrastructure for the new ships.

What we have done with regard to our PC&I funding is we have really focused the investments in the new facilities around kind of what we call centers of gravity in places like Charleston and Pensacola and L.A. and Seattle. When it comes to our O&S money, we have a process that we have the operators meet the engineers, they understand the risk, both in terms of engineering and operations, and we prioritize that way, sir.

Mr. GIBBS. Ms. MacLeod, do you believe the Coast Guard has sufficiently strong analysis in place to make these comparisons?

Ms. MACLEOD. In our 2019 report, as you mentioned, we did find a lack of transparency on how the Coast Guard is prioritizing among projects, even to include the various asset lines that you just mentioned. So, we did recommend that the Coast Guard provide more information on the numbers behind the analysis, and how they are prioritizing projects.

Mr. GIBBS. OK. So, I guess I will go back to you, Vice Admiral. GAO is requesting more information so they can make a better analysis. Do you agree that you are working towards that goal?

Admiral THOMAS. Well, we have done a number of things since 2019 to implement those recommendations, including implementing the modeling tools that were mentioned. We expect that to be fully implemented by 2024, but that will allow us to understand much better what a dollar spent today will avoid in 10 years, for example.

So, we are definitely working toward implementation of those. We have improved our prioritization guidance to the decisionmakers. We centralize some prioritization that used to be decentralized. It is now a centralized headquarter. So, we are marching down that road, sir.

Mr. GIBBS. OK. Good. I do have a question on process, I guess. Is there a standard process by which projects are reported from the field and reviewed at the district, area, and headquarters to determine which projects are included in the administration's annual budget request, which projects are put on the unfunded priority list, and which languish from year to year?

If so, how does this process weigh age, importance to mission resilience, and health and safety against one another? So, you have got to figure out what is the priority, how does it work up through the system, off in the field to headquarters?

Admiral THOMAS. Yes, well, first, I just want to say thank you for that tool that we call the unfunded priority list, because it is very helpful for us to communicate with Congress what we need, but we can't get to in our base budget. And you heard GAO talk about how we tier our assets, and those that are most impactful to operations get priority typically.

The unfunded priority list is a place for us to put other important projects that either might not be as impactful to operations or are so large that—like, for example, $130 million for a pier in Kodiak—so large that it would squeeze a lot of other projects out of a $280 million budget request. So that is how we prioritize, and that is how we use the UPL.

Mr. GIBBS. OK. Thank you. I yield back my time to you.

Mr. CARBAJAL. Thank you, Ranking Member Gibbs.

Before we move on to our next Member, I just want to correct the record. In my questioning, I said that the total Infrastructure Investment and Jobs Act and Build Back Better was $1 trillion. I know your eyes opened up.

Admiral THOMAS. I was holding you to it.

Mr. CARBAJAL. It is $1 billion, not $1 trillion——

Admiral THOMAS. I wrote it down.

Mr. CARBAJAL [continuing]. Just for the record.

With that, I will move on to Representative Weber.

[Pause.]

Mr. CARBAJAL. Representative Weber?

[Pause.]

Mr. CARBAJAL. Representative Larsen.

Mr. LARSEN. Thank you, Mr. Chair.

Admiral, last month I asked Vice Admiral Buschman for an update on expansion of the USCG Base Seattle. He stated that Seattle will be a hub for the Coast Guard, but the right assets need to be in place for that facility to successfully carry out its mission. From a strictly infrastructure point of view, where in the process is the Coast Guard with expansion at USCG Base Seattle?

Admiral THOMAS. Thank you for the question, Congressman. Yes, we are excited about making Seattle a hub. We have definitely planned to put the three Polar Security Cutters up there. We would like to put more cutters. We will have to expand the footprint there, and we are working to do that.

We currently are in the first phase of preparing that facility for the PSCs. We are about to start the dredging process. We have additional moneys earmarked to rehab the piers. But right now, our focus is on finding some swing space for those cutters that are currently homeported there so that we can come in and dredge the basin, but we definitely plan to make Seattle a hub.

Mr. LARSEN. Yes. Can you clarify, you said the three PSCs and then you said additional cutters. Do you mean additional——

Admiral THOMAS. Well, we did environmental studies, sir, where we said we are going to have three PSCs homeported there and up to two other major cutters. We haven't made any decisions. Part of

that is to see how viable it is. We need to, as I said, expand our footprint there if we were to do that.

Mr. LARSEN. So, it could be additional PSCs, it could be OPCs, it could be just some cutters generally?

Admiral THOMAS. It is a deepwater port where on the west coast, we are going to need to maximize what we put there.

Mr. LARSEN. All right. Yes. So, is expansion at Seattle ahead or behind other hubs or other facilities with similar uses?

Admiral THOMAS. I think Seattle is on track, sir. There are some places where we are probably not going to make our time targets, but we will still get those ships in there.

Mr. LARSEN. Yes, that is great. I appreciate that.

And with that, Mr. Chair, I yield back. Thank you.

Thank you, Admiral.

Mr. CARBAJAL. Thank you, Representative Larsen.

Next we will move to Representative Weber.

[Pause.]

Mr. CARBAJAL. Representative Steel.

Mrs. STEEL. Thank you, Mr. Chairman, for including me in your subcommittee.

And I am very grateful because we had the oil spill in my district. So, I want to ask Vice Admiral Thomas. According to the testimony today, the Coast Guard continues to face challenges in ensuring that its infrastructure investment meets mission and user needs. Those challenges have been felt hard by those who live in my congressional district.

On Saturday, October 2, 2021, there were reports of an oil leak off the coast and the Coast Guard waited 15 hours before confirming the oil spill. The Coast Guard claims darkness and lack of a proper technology caused them to delay their surveillance, leading to the 15 hours of lost time between the first official reports and a full confirmation to the public.

This is completely unacceptable. What essential technology is needed to ensure there is never a future delay in surveillance?

Admiral THOMAS. Thank you for that question, Congresswoman Steel.

I am not personally involved in that response, though having kind of an insider's view from afar, and having worked those types of responses before, outside of the 15-hour delay that you mentioned, that response seemed to have gone as well as possible. The team jelled quickly and incorporated volunteers. They used the right equipment. And it is never good to be picking up oil off the beach, but they seemed to have done that efficiently and effectively.

With regard to technology, we are constantly—in fact, just yesterday I met with the Department of Homeland Security Science and Technology Director. We are constantly looking at technology that will help us sense and understand the environment that we operate in—and for which we are responsible—better.

Are there some technologies that may have allowed us to confirm that oil spill quicker? Yes, they absolutely are, remote vehicles with the right sensors. And we are moving to employ those where it makes sense.

But I appreciate your concern. We will absolutely learn lessons from this particular response and incorporate new technology where it makes sense that we do the job more effectively.

Mrs. STEEL. Thank you.

According to Lieutenant Kay Kneen, investigations have shown off the coast of Orange County during a storm in January 2021, a cargo ship's anchor was dragged an unknown distance before striking the 16-inch steel pipe. That same pipe leaked oil on October 2. Ships entering the port can be sent to 1 of 60 locations as they wait for an opening. These areas are identified by the Coast Guard, and Marine Exchange approved these ships to safely drop their anchors. We are talking about 30 tons of weight.

If existing pipelines are mapped improperly or moved, how can the Coast Guard safely monitor where these anchors are dropping? Because we have not just oil pipelines, but shore pipelines and cable lines there. Are proper investments being made to meet this mission capability?

Admiral THOMAS. Well, the Coast Guard monitors the anchorages. We are not really responsible to keep track of the pipelines, although we work with our sister agencies to make sure we have the updated, most recent locations. The issue of port congestion out in the west coast, for example, is a maritime transportation system governance issue like many that we have dealt with before. And my experience says that the best solutions for those types of issues are at their foundation industry-led and market-driven with regulation layered in where it makes sense in order to provide a level playing field and kind of moderate the behavior of outliers.

That is what I see happening right now in southern California, as they are taking action to hold ships well offshore, so that the anchorages don't fill up. And that is really the best solution to this type of a congestion problem.

Mrs. STEEL. Thank you very much.

I yield back.

Mr. CARBAJAL. Thank you very much, Representative Steel.

We will now move on to Representative Gallagher.

Mr. GALLAGHER. Thank you.

Vice Admiral Thomas, thank you for being here.

Recently, the news has been filled with stories about supply-chain problems, supply-chain vulnerabilities, supply-chain disruptions. But an industrial commodity supply-chain concern has received much less attention, and I am talking about supplying iron ore to U.S. Great Lakes steel manufacturers. As you know, that steel is needed to build Navy ships, Army vehicles, U.S.-manufactured cars, trucks, farm equipment, appliances, and other equipment.

Unfortunately, due to a gap between the departure of the Coast Guard cutter *Alder* from Duluth and its replacement's arrival, my understanding is that Lake Superior is going to be without a Coast Guard icebreaking capacity that would ensure the safe movement of iron ore cargo vessels this winter. Also, the Coast Guard's current Great Lakes icebreaking performance standards do not measure any ice impacts on commercial navigation in Lake Superior. So, I guess that leads to two questions:

One, what will the Coast Guard do this winter to ensure vital cargoes like iron ore can move through the Great Lakes? And two, how will the Coast Guard better track their performance of this mission?

Admiral THOMAS. Well, thank you for the question.

It is not lost on the Coast Guard the economic impact of the Great Lakes Waterway system, and so, I appreciate your continued focus on ensuring that commerce can flow up there. I am not aware of the icebreaker lay down for this winter. That is something our district commander would certainly manage. I do know that the Ninth District commander has agreements with the Canadians, for example, where they figure out together where the priorities are for ice break. And the Canadians will assist us, and we will assist them.

But I will have to take it for the record to give you some specifics on the *Alder* and what the Ninth District commander's plans are to make up for that operational gap.

Mr. GALLAGHER. I will gladly follow up with you on that, and I appreciate a commitment to helping me understand the issue better.

I guess, I mean, doesn't it make sense for the Coast Guard's icebreaking priorities and performance standards to prioritize a region's maritime cargo and their specific impacts on its population if it is not delivered due to ice? Perhaps it is already being factored in. But, whether it is transporting fuel in the Northeast or industrial supplies in the Great Lakes, the goal is to ensure interruptions do not occur. Is it your understanding that that is factored into the analysis right now?

Admiral THOMAS. Sir, it absolutely is. We tier all of our waterways. And we take into account the economic activity that is on those waterways. And the highest tiers have the highest priorities.

Mr. GALLAGHER. I appreciate that.

I think a consistent theme that you have heard on this committee, certainly from the ranking member, is that we need more icebreakers. We need more icebreaking capability. And I appreciate the chairman's comment that we will have $1 billion for something, but we need money for icebreakers as well. It seems like we have got money for everything except for the things we actually need that are vital.

So, it is my hope that we will continue to work in a bipartisan fashion to fund urgent priorities such as icebreakers. And I have been, quite frankly, disappointed on the lack of urgency with which we have tackled that issue. So less of a question to you and more of a statement to myself and my colleagues on the committee.

With that, I yield back.

Admiral THOMAS. Thank you.

Mr. CARBAJAL. Thank you, Representative Gallagher.

Admiral Thomas, could you elaborate on just the icebreakers right now, the status of them briefly, an overview? Because I think there is a lot that is waiting in the pipeline. And I am just wondering if you could briefly touch on that to elaborate on what Representative Gallagher just asked.

Admiral THOMAS. Well, I think Representative Gallagher is speaking mostly to our domestic icebreaking capability as opposed

to the capability that would go to the poles. And there is no question that our domestic icebreaking fleet is aging infrastructure, and it is a system that needs to be recapped as a system. So, we have a larger icebreaker on the *Mackinaw*, on the Great Lakes which kind of does the highways, if you will, and the 140s that do the side roads that lead to the facilities. And on places like the Hudson River, our 65-footers are really old. But they are essential to break ice that prevents flooding and allows the delivery of fuel.

So, no question icebreaking continues to be an important service that the Coast Guard offers the Nation, and that domestic icebreaking fleet needs to be recapitalized.

Mr. CARBAJAL. Thank you.

And I guess for the record I would just say to my good friend and colleague, I doubt, Mr. Gallagher, that there is funding in the Build Back Better Act that we'll be voting for to supply additional resources for this issue.

So, with that, we will move on to Representative Weber.

[Pause.]

Mr. CARBAJAL. Having no more Representatives that want to ask further questions, that will conclude our hearing today.

I would like to thank the witnesses for your testimony today.

I ask unanimous consent that the record of today's hearing remain open until such time as our witnesses have provided answers to any questions that may be submitted to them in writing.

I would also ask unanimous consent the record remain open for 15 days for additional comments and information submitted by Members or witnesses to be included in the record of today's hearing.

Without objection, so ordered.

The subcommittee stands adjourned.

[Whereupon, at 11:11 a.m., the subcommittee was adjourned.]

SUBMISSIONS FOR THE RECORD

Prepared Statement of Hon. Peter A. DeFazio, a Representative in Congress from the State of Oregon, and Chair, Committee on Transportation and Infrastructure

Thank you, Chair Carbajal for scheduling this morning's hearing to assess the Coast Guard's infrastructure needs, both hard and soft. If we expect the Coast Guard to stand ready through an uncertain future with unprecedented threats, it is vital that we invest in infrastructure to withstand the impacts of climate change and an increasingly challenging cyber domain.

In 2019, this subcommittee held a hearing where we heard from the Coast Guard and the Government Accountability Office on the Coast Guard's deferred maintenance and repair backlog of $2.6 billion for its shoreside infrastructure, housing, and support facilities. The Coast Guard now estimates the backlog at $3 billion, with an annual growth of 10 to 15 projects, amounting to approximately $300 to $450 million. And yet, the Coast Guard continues to execute its missions for the American people.

In fact, I think the Coast Guard's willingness to make do with whatever resources they are given has put them at a disadvantage compared to other services. They don't complain and yet they continue to do an excellent job despite all the challenges they are facing. At a minimum, Congress must fund shoreside infrastructure at an amount sufficient to eliminate annual growth of the backlog to help support the Service.

The fact that at least 45 percent of the Coast Guard's infrastructure properties are beyond their 65-year service life should be a concern to all of us here today. We have finally passed a comprehensive infrastructure bill—the Infrastructure Investment and Jobs Act—signed into law just yesterday. For the first time in over 10 years, many of our roads, bridges, and waterways will receive the attention they desperately need, and this bill includes $429 million for Coast Guard facilities, an important first step. And as we continue to push for the Build Back Better Act, which includes $650 million for climate-resilient Coast Guard shoreside infrastructure, it is clear this hearing has come at a critical moment.

Beyond the fact that Coast Guard missions rely on fully operational facilities, Coasties and their families live and work across thousands of housing and childcare facilities and workstations that require infrastructure upgrades. These facilities are falling apart around our service members and that is unacceptable.

Currently, many Coast Guard assets and facilities are vulnerable to human-caused climate change—sea-level rise, more intense storms and sunny day flooding, and more frequent and longer wildfire seasons. We're seeing extreme and shifting climate patterns along our country's coasts, and the need to incorporate resilience into these proposed infrastructure upgrades is critical. I look forward to hearing more about the Coast Guard's strategic plans to address climate change impacts.

As our maritime interests are intrinsically connected to our economy and national security, it is imperative to prioritize better preparation for the Coast Guard to ensure mission readiness and capability. Every Coast Guard mission begins and ends at a shoreside facility.

I recognize that there are restraints which hinder the Coast Guard from requesting what funding is fully needed, and that has affected the Service's bottom line. However, we can no longer leave the Coast Guard by the wayside. I will remain a vocal advocate for addressing this shoreside backlog and assisting the Coast Guard in fulfilling its missions with the requisite resources.

I also expect the Coast Guard to step up. Every single branch of the Armed Forces has developed a comprehensive plan for addressing climate risks within their shoreside capital planning strategy, and we are anxiously awaiting the Coast Guard's plan, which is still under development. This is a vital tool to prepare the Service for the uncertain future impacts of climate change.

We know that there several viable recapitalization and maintenance projects targeting shoreside infrastructure proposed by the GAO. I look forward to hearing about these recommendations from Acting Director MacLeod.

Additionally, I hope to hear about the status of the Coast Guard's "tech revolution." The Coast Guard itself attests that it is operating with a $200 million deficit, as its data systems continue to fall behind. I want to hear solutions about what Congress can do to fill this gap. It is essential that this agency's workforce has access to adequate technological capabilities for mission readiness.

Through these past few years, we've seen the Coast Guard successfully phase in several new classes of cutters with more to come. However, it is crucial to provide robust shoreside facilities and software upgrades to accommodate these assets. It is pointless to fund these new cutters if they'll continue to face the same operational challenges. I will continue to work to ensure that the Coast Guard is appropriately funded and that the workforce who keep the service operating is not neglected.

I thank Vice Admiral Thomas and Acting Director MacLeod for appearing today.

Prepared Statement of Hon. Sam Graves, a Representative in Congress from the State of Missouri, and Ranking Member, Committee on Transportation and Infrastructure

Thank you, Chair Carbajal, and thank you to our witnesses for being here today.

Next year, it will be 20 years since the Coast Guard entered into what was projected to be a 20-year recapitalization of its ocean-going assets.

The focus on recapitalizing the cutters and aircraft that allow the Service to carry out its at-sea mission is understandable. However, it has drawn resources away from needed ongoing maintenance and recapitalization of shoreside facilities and left no resources available for keeping IT systems current.

I look forward to hearing from the witnesses today what resources and timelines are necessary to make Coast Guard shoreside facilities:

- safe to work and live in,
- sufficient to meet the Service's mission needs, and
- sufficiently resilient to withstand natural disasters.

I also look forward to hearing how the Coast Guard intends to upgrade, or, in some areas like with an electronic health records system, establish usable 21st century IT systems. Without such systems, the Service will be unable to adequately perform its day-to-day safety, regulatory, law enforcement and human resource missions.

Thank you, Chair Carbajal. I yield back.

APPENDIX

QUESTIONS FROM HON. SALUD O. CARBAJAL TO VICE ADMIRAL PAUL F. THOMAS, DEPUTY COMMANDANT FOR MISSION SUPPORT, U.S. COAST GUARD

Question 1.a. The Coast Guard's Aids to Navigation Team (ANT) Saugerties is in upstate New York. The men and women there perform critical missions for upstate New Yorkers including aids to navigation along the Hudson River, ice breaking, and funeral honors. We have heard from our colleague Rep. Delgado that ANT Saugerties has significant shoreside infrastructure needs, inadequate perimeter security, and lacks an on-base boat ramp. Does the Coast Guard recognize the immediate infrastructure needs of ANT Saugerties and where are these needed improvements on your priorities list?

ANSWER. Thank you for your support and advocacy for Coast Guard infrastructure needs. The Coast Guard continues to identify and validate the infrastructure needs of ANT Saugerties. There is $700,000 of approved or contracted Depot Level Maintenance projects to include: increasing the septic system's capacity, garage reconfiguration, and roof replacement and garage insulation.

Question 1.b. It is my understanding that total facilities upgrade on the Coast Guard's Unfunded Priority List only amounts to $429 million which falls far short of the nearly $3 billion recapitalization and maintenance backlog total. Where does ANT Saugerties fall on this list?

ANSWER. Through your support and advocacy for Coast Guard infrastructure needs, Congress appropriated $309 million for projects on the Coast Guard's Unfunded Priority List (UPL) for Procurement Construction and Improvement (PC&I) investments. Though ANT Saugerties projects were not on the Coast Guard's FY 2022 UPL, backlog projects for ANT Saugerties' across PC&I, Depot-Level Maintenance (DLM), and Organizational-Level Maintenance (OLM) items are important backlog items and will be scheduled for completion once additional funding is available.

Question 1.c. Are the investments needed at ANT Saugerties Organizational-Level Maintenance (OLM) or Depot-Level Maintenance?

ANSWER. ANT Saugerties projects would require additional OLM, DLM, and PC&I investments to reduce all existing backlog items.

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