



September 2019

VETERANS AFFAIRS

Additional Actions Needed to Increase Veterans' Burial Access

Accessible Version

GAO Highlights

Highlights of [GAO-19-121](#), a report to congressional committees

Why GAO Did This Study

The VA is responsible for ensuring that veterans have reasonable access to burial options in a national or state veterans' cemetery. In fiscal year 2018 VA estimated that about 92 percent of veterans had reasonable access to burial options, which was an increase from 90 percent in fiscal year 2014 but short of its goal of 96 percent by the end of fiscal year 2017.

The House Appropriations Committee has expressed concerns that there are geographic pockets where veterans remain unserved by burial options. House Report 115-188 accompanying a bill for the Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2018, includes a provision for GAO to examine veterans' access to burial options.

This report (1) describes VA's plan for increasing reasonable access to burial options for veterans and (2) assesses VA's progress in implementing its plan and any challenges experienced. GAO reviewed applicable VA and NCA documents, compared NCA's cost-estimating practices with GAO's cost-estimating 12 steps, and met with cognizant officials regarding NCA's efforts to provide reasonable access to burial options.

What GAO Recommends

GAO recommends that NCA fully adopt cost-estimating leading practices into its procedures to assist in improving its cost estimates for establishing cemeteries. NCA concurred with our recommendation.

View [GAO-19-121](#). For more information, contact Diana Maurer at (202) 512-9627 or maurerd@gao.gov.

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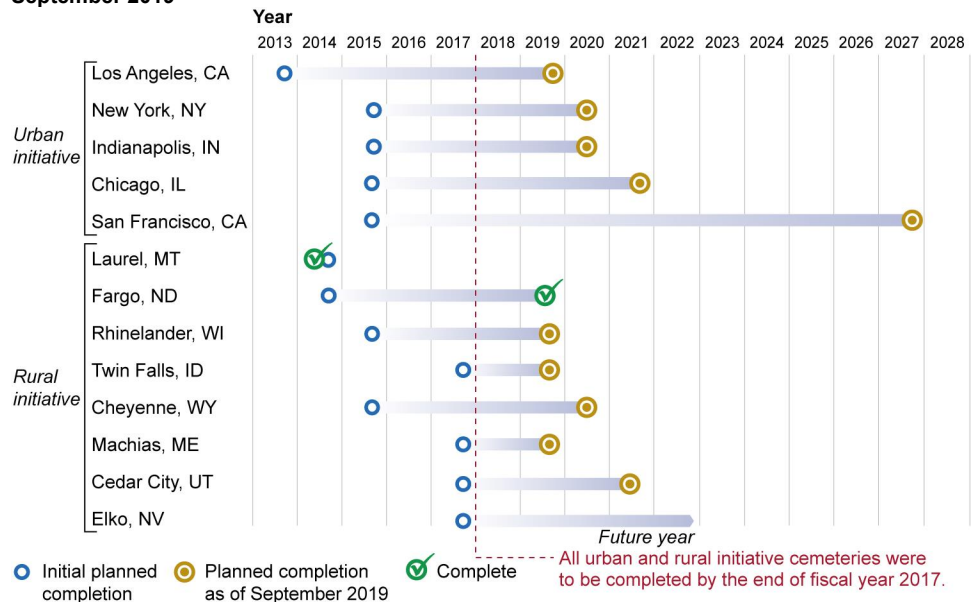
Additional Actions Needed to Increase Veterans' Burial Access

What GAO Found

Within the Department of Veterans Affairs (VA), the National Cemetery Administration (NCA) has a plan to establish 18 new national cemeteries to increase reasonable access to burial options for veterans. NCA defines reasonable access as a national or state veterans' cemetery being located within 75 miles of veterans' homes. Key parts of NCA's plan include establishing 13 urban and rural initiative national cemeteries and awarding grant funds to state applicants for establishing new state veterans' cemeteries.

NCA has made limited progress in implementing its plan to increase burial access and is years behind its original schedule for opening new cemeteries. For example, NCA has opened only two of its planned urban and rural initiative sites and is behind its original schedule for the other 11 (see fig. below). The primary factor delaying NCA's completion of these cemeteries has been challenges in acquiring suitable land.

National Cemetery Administration's Timeline for Urban and Rural Initiative Sites, as of September 2019



Source: GAO analysis of Department of Veterans Affairs (VA) information. | GAO-19-121

NCA has also been challenged in producing accurate estimates of construction costs for most of its rural initiative sites. Cost estimates have increased more than 200 percent (from about \$7 million to \$24 million) for these sites, and NCA's guidance for developing cost estimates for the cemeteries does not fully incorporate the 12 steps identified in cost-estimating leading practices—such as conducting a risk and uncertainty analysis or a sensitivity analysis. As a result, NCA is not well positioned to provide reliable and valid cost estimates to better inform decisions to enhance veterans' cemetery access.

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Abbreviations

NCA	National Cemetery Administration
VA	Department of Veterans Affairs

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September 30, 2019

Congressional Committees

Since 1973 the Department of Veterans Affairs (VA) National Cemetery Administration (NCA) has been responsible for the interment of deceased servicemembers and veterans. As part of these responsibilities, NCA ensures that veterans have reasonable access to a burial option in a national, state, or tribal government veterans' cemetery. NCA defines reasonable access as a national or state veterans' cemetery being located within 75 miles of veterans' homes. As of September 2019, NCA maintains approximately 3.8 million gravesites at 137 national cemeteries and 33 soldiers' lots and monument sites, located across 40 states and Puerto Rico. NCA estimated that more than 2.1 million veterans—approximately 10 percent of the veterans in the United States—did not have reasonable access to burial options at the end of fiscal year 2013.

The Consolidated and Further Continuing Appropriations Act, 2013, required that VA submit to Congress a strategy to serve the burial needs of veterans residing in rural areas.¹ This act also included a provision for us to review VA's strategy and determine whether it included specific elements related to providing veterans residing in rural areas with access to veterans' cemeteries. VA submitted a strategy in response to the Act's requirement, we reviewed the strategy and, in September 2014, we reported that the strategy included only four of the eight required elements.² We made a recommendation that VA develop and implement a plan to fully meet the reporting requirements, including the estimated number and location of unserved veterans and a national map of cemeteries. VA subsequently implemented this recommendation.

In June 2017, the House Appropriations Committee expressed concern that there were geographic pockets in the country where veterans remain unserved, and that VA had failed to meet its goal of ensuring that

¹Consolidated and Further Continuing Appropriations Act, 2013, Pub. L. No. 113-6, 127 Stat. 397-398 (2013). NCA defines a rural area as 25,000 or fewer veterans residing within a 75-mile service area.

²GAO, *Veterans Affairs: Data Needed to Help Improve Decisions Concerning Veterans' Access to Burial Options*, [GAO-14-537](#) (Washington, D.C.: Sept. 9, 2014).

veterans have reasonable access to burial options. House Report 115-188, to accompany a bill for the Military Construction, Veterans Affairs, and Related Agencies Appropriations Act, 2018, included a provision for us to examine and provide a report on rural veterans' access to national cemeteries.³ This report (1) describes VA's plan for increasing reasonable access to burial options for veterans and (2) assesses VA's progress in implementing its plan and any challenges experienced.

For objective one, we reviewed applicable VA and NCA documents covering fiscal years 2011-2024, such as strategic plans, annual budget proposals, and press releases on new veterans' cemeteries, to identify VA and NCA plans for expanding reasonable access to burial options for veterans. In addition, we reviewed NCA's 5-year strategic and long-range plans and its plans of actions and milestones, as well as VA annual performance plans. Further, we interviewed knowledgeable NCA officials to discuss the agency's strategy for increasing burial access, and whether NCA has a plan to continually reexamine burial options and implement necessary changes.

For objective two, we determined the implementation status of VA's and NCA's plans and evaluated whether timelines and goals had been met. Specifically, we compared historical information on construction and project timeline changes from fiscal years 2011-2020 with the information outlined in NCA's timeline and goals. We interviewed knowledgeable NCA officials to gather information on the project timelines and status of NCA's urban and rural initiative sites, as well as any challenges confronted in the implementation of the plans. We also gathered and reviewed project summary and cost-estimate information on NCA's urban and rural initiatives from fiscal years 2011-2020. We conducted an in-depth assessment of the cost-estimating policies and practices NCA uses to calculate estimated costs for its urban and rural initiatives and other cemetery construction projects. Specifically, we assessed VA's 2011 *Manual for Preparation of Cost Estimates and Related Documents for VA Facilities (Manual)*; VA's 2011 *Architect/Engineer (A/E) Submission Requirements for National Cemetery Projects Program Guide PG 18-15 Volume D (Guide)*; and NCA's Construction Program Conceptual Estimate Worksheet (Worksheet), and we compared them with the 12-step cost-estimating process established in GAO's *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital*

³H.R. Rep. No. 115-188, at 70 (2017).

*Program Costs (Cost Guide).*⁴ Because NCA's Worksheet along with VA's *Manual* and *Guide* collectively guide NCA's cemetery project cost estimating, we refer to these three documents collectively as "NCA's cost-estimating guidance" throughout the report.

In addition, we reviewed NCA's methodology for determining the percentage of the veteran population served by a veterans' cemetery in order to understand the basis for its estimate. We compared the number of unserved veterans by using estimated veteran population data from NCA as well as data from the U.S. Census Bureau. We estimated the percentage of veterans served by multiplying the percentage of the area of each census tract⁵ in the United States that falls within the service area of an open veterans' cemetery⁶ by the estimated number of veterans in the tract, which we derived from the American Community Survey 5-year estimates for 2013-2017.⁷ We totaled these estimates at the county, state, and national levels to calculate the estimated percentage of veterans served in the United States. We determined the numbers of unserved veterans in the actual and planned service areas of the initiatives by using both NCA's county-level population data and census tract data from 2013-2017 to compare the data from the two sources and to assess whether access to burial options have been or will be expanded or increased from the urban initiatives and increased from the rural initiatives. The estimates of veterans within the service area of an open cemetery that we derived from American Community Survey 5-year data are statistical estimates that have sampling error associated with them. We followed the Census Bureau technical guidance for estimating the

⁴GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs* (Supersedes [GAO-07-1134SP](#)), [GAO-09-3SP](#) (Washington, D.C.: March 2009).

⁵Census tracts are small, relatively permanent statistical subdivisions of counties that generally have a total population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. Census tract boundaries are delineated with the intention of being maintained over a long time so that statistical comparisons can be made from census to census. Census tract data are updated every 10 years, whereas, county-level population data are updated every 2 to 3 years.

⁶NCA defines an open cemetery as a cemetery in which gravesites are available for the first interment of either casketed or cremated remains. NCA defines a closed cemetery as a cemetery in which no gravesites are available for first interments.

⁷The American Community Survey, administered by the Census Bureau, is an ongoing survey that provides vital information on a yearly basis about the United States and its people. Information from the survey generates data that help determine how more than \$675 billion in federal and state funds are distributed each year.

standard error of census tract population totals from American Community Survey 5-year data. We express our confidence in the precision of our estimate as 90 percent confidence intervals. These are the intervals that would contain the actual population value for 90 percent of the American Community Survey samples that the Census Bureau could have drawn. Estimates of total veterans derived from American Community Survey data are rounded to the nearest 100 unless otherwise noted.

We conducted this performance audit from April 2018 to September 2019 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

History of the National Cemetery Administration

The National Cemeteries Act of 1973 created the modern veterans' cemetery system.⁸ NCA, within VA, manages a majority of veterans' cemeteries in the United States.⁹ In that role NCA maintains existing national cemeteries and builds new national cemeteries for the nation's veterans and their family members. Since 1978 NCA has also provided funding through VA's Veterans Cemetery Grants Program (Grants Program) to help establish, expand, or improve state and tribal veterans' cemeteries. States and tribal governments seeking funding from the Grants Program must apply to the VA. Any cemetery established, expanded, or improved through funding from VA's Grants Program must be maintained and operated in accordance with NCA's operational standards. Veterans from all 50 states, the District of Columbia, Puerto

⁸Pub. L. No. 93-43 (1973), codified as amended at 38 U.S.C. §§ 2400-2407.

⁹The Army maintains 32 veterans' cemeteries, 11 of which were proposed to be transferred to the VA. The Department of the Interior maintains 14, the Air Force maintains five, the Navy maintains five, and the Department of Agriculture maintains one cemetery. This comes to a total of 57 veterans' cemeteries not maintained by NCA.

Rico, and some U.S. territories are served by national, state, or tribal cemeteries.

In addition, over time NCA has changed its policies and procedures to better fulfill its mission to serve and honor veterans and their family members. For example, in 2011 NCA lowered its policy threshold for establishing new national cemeteries from an area having at least 170,000 veterans who are unserved by burial options to an area having 80,000 unserved veterans.¹⁰ NCA established this revised policy threshold in recognition that many highly populated areas still lacked reasonable access to a burial option, and based on data and analysis provided by an independent review of VA's burial benefits program in 2008. This revised minimum veteran population threshold was chosen based on data showing that state veterans' cemeteries funded through VA's Grants Program were located in areas that typically served a maximum of 80,000 veterans within a 75-mile service area. According to VA documentation, moving to this lower threshold has enabled the agency to establish new national cemeteries in areas where states may not have been willing to place them because of the size and cost of operating a larger state veterans' cemetery.

NCA's Various Burial Options

NCA offers a variety of facilities to meet the burial needs of veterans, including various cemetery configurations that either provide burial options to eligible veterans or improve their access to burial options, as shown in table 1.

¹⁰Unserved veterans are defined as veterans who do not live within the 75-mile service area of an open national, state, or tribal veterans' cemetery.

Table 1: National Cemetery Administration's (NCA) Existing Burial Options for Eligible Veterans, as of September 2019

Type of cemetery	Description	Number
National cemeteries	Maintained by NCA and intended to serve areas with large veteran populations. In 2011, NCA lowered its policy threshold for establishing new national cemeteries from requiring areas to have at least 170,000 unserved veterans to requiring areas to have 80,000 unserved veterans. NCA plans to create new national cemeteries under its urban and rural initiatives.	137 ^a
State veterans' cemeteries ^{b,c}	State cemeteries eligible for funding through the Department of Veterans Affairs' (VA) Veterans Cemetery Grants Program include those in U.S. states and territories, the District of Columbia, and Puerto Rico. States seeking funding must apply to the VA. State veterans' cemeteries are generally located in areas where fewer than 80,000 veterans reside within the cemetery's service area. Some states may impose residency requirements for veterans to be eligible for burial in a state veterans' cemetery.	102
Tribal government veterans' cemeteries ^c	According to VA officials, tribal cemeteries serve veterans who are members of the tribe that maintains the cemetery and thus do not typically have the kind of service area distance limits found for other cemeteries.	13

Source: Department of Veterans Affairs (VA) information. | GAO-19-121

^aIn a written response, NCA stated that it maintains 138 national cemeteries, with the addition of the recently established Fargo National Cemetery. However, according to other NCA information, as of August 2019 NCA maintains 137 national cemeteries, including Fargo National Cemetery.

^bFor the purposes of the VA's Veterans Cemetery Grants Program, the term "state" includes territories, possessions of the United States, the District of Columbia, and the Commonwealth of Puerto Rico. 38 C.F.R. § 39.2 (2013).

^cVA's Veterans Cemetery Grants Program provides funding to establish, expand, and improve these cemeteries, not to include the cost of acquiring land. Cemeteries funded through this program must conform to all standards and guidelines pertaining to site selection, planning, and construction prescribed by VA.

NCA's Methodology for Determining Access to Burial Options

NCA uses county-level population data to determine whether veterans currently have reasonable access to burial options and uses county-level population projections to support decisions about future cemetery locations. NCA makes its decisions regarding whether a veteran is served or unserved based on the county in which the veteran resided, without

reference to the location of the veteran's actual residence.¹¹ NCA's methodology uses a veteran's county of residence as a proxy for being within 75 miles of a veterans' cemetery.

NCA Plans to Establish Eighteen New National Cemeteries and Use Its Grants Program for the Creation of State Veterans' Cemeteries to Increase Access to Burial Options

NCA's plan entails establishing 18 new national cemeteries—comprised of five traditional national cemeteries and 13 urban and rural initiative national cemeteries—and awarding funds for new state veterans' cemeteries.¹² In 2014, we reported that NCA estimated approximately 90 percent of the veteran population had reasonable access to burial options, and that it expected to reach its strategic goal of providing reasonable access to 96 percent of veterans by the end of fiscal year 2017.¹³ Since 2014, NCA has revised its strategic goal to provide reasonable access to 95 percent of the veteran population, and NCA's current long-range plan to achieve this goal covers fiscal years 2018-2022.

NCA's 2014 plan to increase veterans' access to burial options included building 18 new national cemeteries as follows:

- Five traditional national cemeteries, to be located in Western New York; Central East Florida; Southern Colorado; Tallahassee, Florida; and Omaha, Nebraska. Taken together, according to NCA, these cemeteries are intended to provide a burial option to an additional 550,000 veterans and their families.

¹¹NCA considers counties to be served if (1) the entire county is within the 75-mile service area of a cemetery; or (2) at least 50 percent of the county's area is within the service area of a cemetery; or (3) less than 50 percent of the county's *area* is within the service area of a cemetery, but the county's *population center* is within the service area; or (4) the county is intersected by the geographic arcs of two or more cemeteries' service areas, and the two service areas combined cover more than 50 percent of the county's area.

¹²NCA is responsible for establishing new national cemeteries, and we use the term "traditional" cemeteries to refer to those that are not part of NCA's urban and rural initiatives.

¹³[GAO-14-537](#).

-
- Five urban initiative cemeteries, to be located in Los Angeles, California; the San Francisco Bay Area, California; Chicago, Illinois; Indianapolis, Indiana; and New York, New York. Taken together, according to NCA, the urban initiative is intended to expand burial options for approximately 2.4 million additional veterans in certain urban areas. NCA announced this initiative in 2011 with the purpose of expanding burial options in urban areas through building columbaria-only (facilities for cremated remains) national cemeteries close to the urban core.¹⁴
 - Eight rural initiative cemeteries, to be located in Idaho, Maine, Montana, Nevada, North Dakota, Utah, Wisconsin, and Wyoming. Taken together, according to NCA, the intent of the rural initiative is to increase the burial options for approximately 106,000 additional veterans in certain rural areas. NCA announced this initiative in 2012 with the purpose of increasing access by establishing new national cemeteries for states with no open national cemetery and a population of 25,000 or fewer veterans.

In addition, since 1978, NCA has used the Grants Program to help increase veterans' cemetery access. The Grants Program was established to complement national cemeteries by assisting state, territory, and tribal government applicants to establish, expand, or improve veterans' cemeteries in order to provide gravesites for veterans in those areas where NCA cannot fully satisfy their burial needs. As noted earlier, states and tribal governments seeking grant funding must apply to the VA. States, funded by the Grants Program, often build in areas with veteran populations that are too small to qualify for a national cemetery. NCA prioritizes pending grant applications by giving the highest priority to cemetery construction projects in geographic locations with the greatest projected number of veterans who will benefit from the project, as determined by NCA based on county-level population projections. In 2018, NCA provided funding for a total of 15 grants for the expansion, improvement, or establishment of state and tribal government veterans' cemeteries. This includes the establishment of two new state and tribal government veterans' cemeteries. In 2019, NCA expects to provide funding for 17 state and tribal government veterans' cemetery projects, three of which would be for new cemeteries.

¹⁴Specifically, this initiative is aimed at areas where the nearest national cemetery is at least 50 miles from the urban core and has recent utilization rates of less than 20 percent.

NCA Has Made Limited Progress in Implementing Its Plan for Increasing Burial Access and Faces Continuing Challenges

While NCA has made some progress in implementing its plan to increase burial access for veterans, that progress has been limited, as it is years behind its original schedule for opening new cemeteries. In its efforts, NCA has experienced three key challenges: (1) acquiring suitable land for new national cemeteries, (2) estimating the costs associated with establishing new national cemeteries, and (3) using all available data to inform how its Grants Program targets unserved veteran populations.

NCA Has Opened Six New Cemeteries since 2014 but Is Years Behind Its Original Schedule

In 2014, NCA planned to open 18 new sites by the end of fiscal year 2017 to better serve the burial needs of the veteran population. As of September 2019, NCA has opened four new traditional national cemeteries—Tallahassee National Cemetery in Tallahassee, Florida; Cape Canaveral National Cemetery in Mims, Florida; Omaha National Cemetery in Omaha, Nebraska; and Pikes Peak National Cemetery in Colorado Springs, Colorado.¹⁵ NCA also opened two of its eight planned rural initiative cemeteries—Yellowstone National Cemetery in Laurel, Montana, and Fargo National Cemetery in Harwood, North Dakota. As a result, according to NCA, by the end of fiscal year 2018 the percentage of veterans with reasonable access had increased from 90 percent to about 92 percent. As previously discussed, NCA's goal is to provide 95 percent of veterans with reasonable access to burial options.

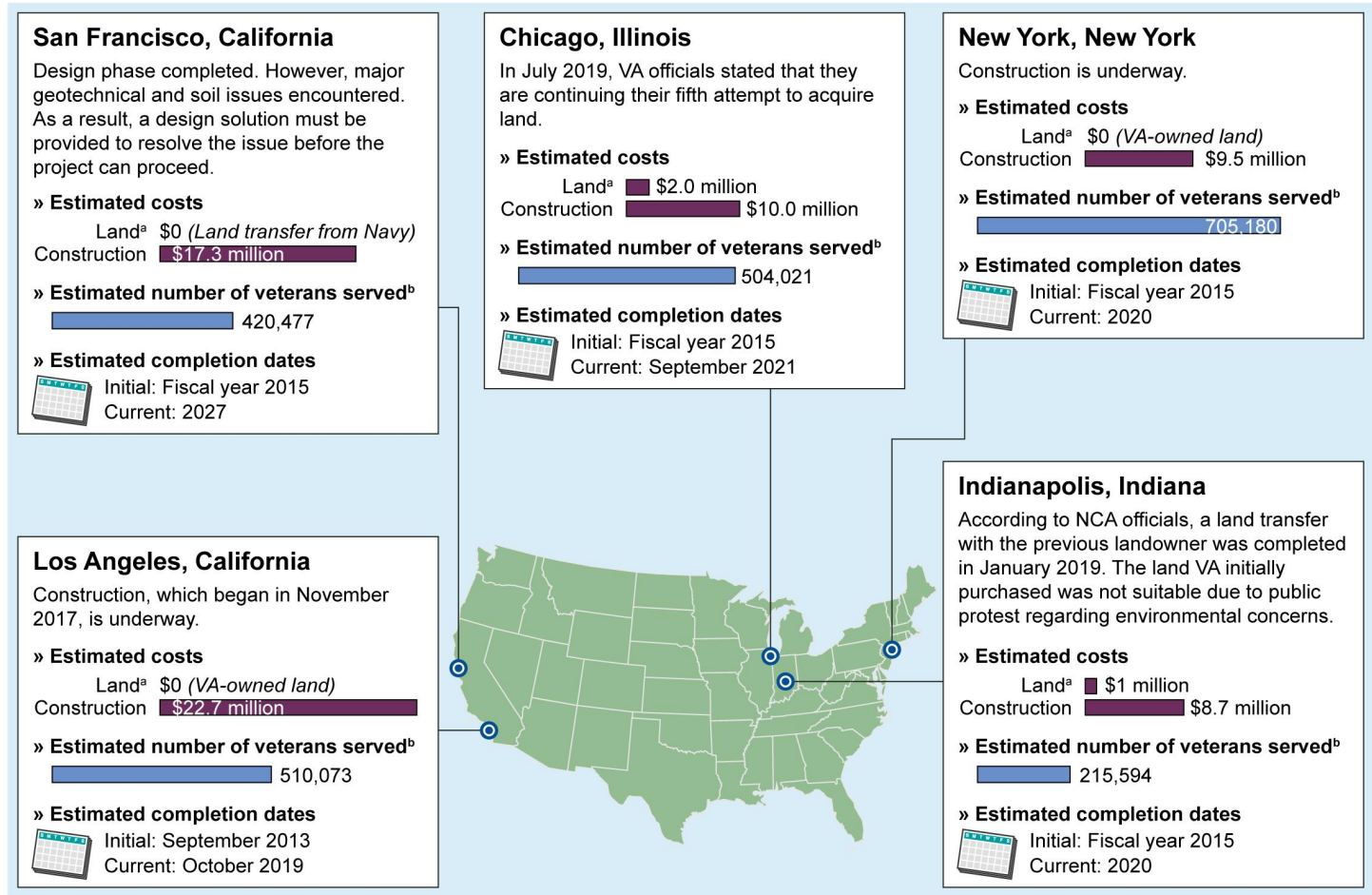
As we reported in 2014, NCA had initially planned to open all of its 13 urban and rural initiative sites by the end of fiscal year 2017.¹⁶ As shown in figure 1, NCA had originally estimated completing all five of its urban initiative sites by the end of fiscal year 2015. However, the completion dates for all of these sites have slipped multiple times. In July 2019, NCA officials stated that the planned completion dates for the urban initiative

¹⁵NCA plans to open the fifth new traditional national cemetery in Western New York sometime in 2021.

¹⁶[GAO-14-537](#).

sites were as follows: October 2019 for Los Angeles, sometime in 2020 for New York and Indianapolis, September 2021 for Chicago, and sometime in 2027 for San Francisco.

Figure 1: National Cemetery Administration's (NCA) Estimates of Costs, Numbers of Veterans Served, and Status of the Urban Initiative Sites, as of September 2019



Source: Department of Veterans Affairs (VA) information; Map Resources (map). | GAO-19-121

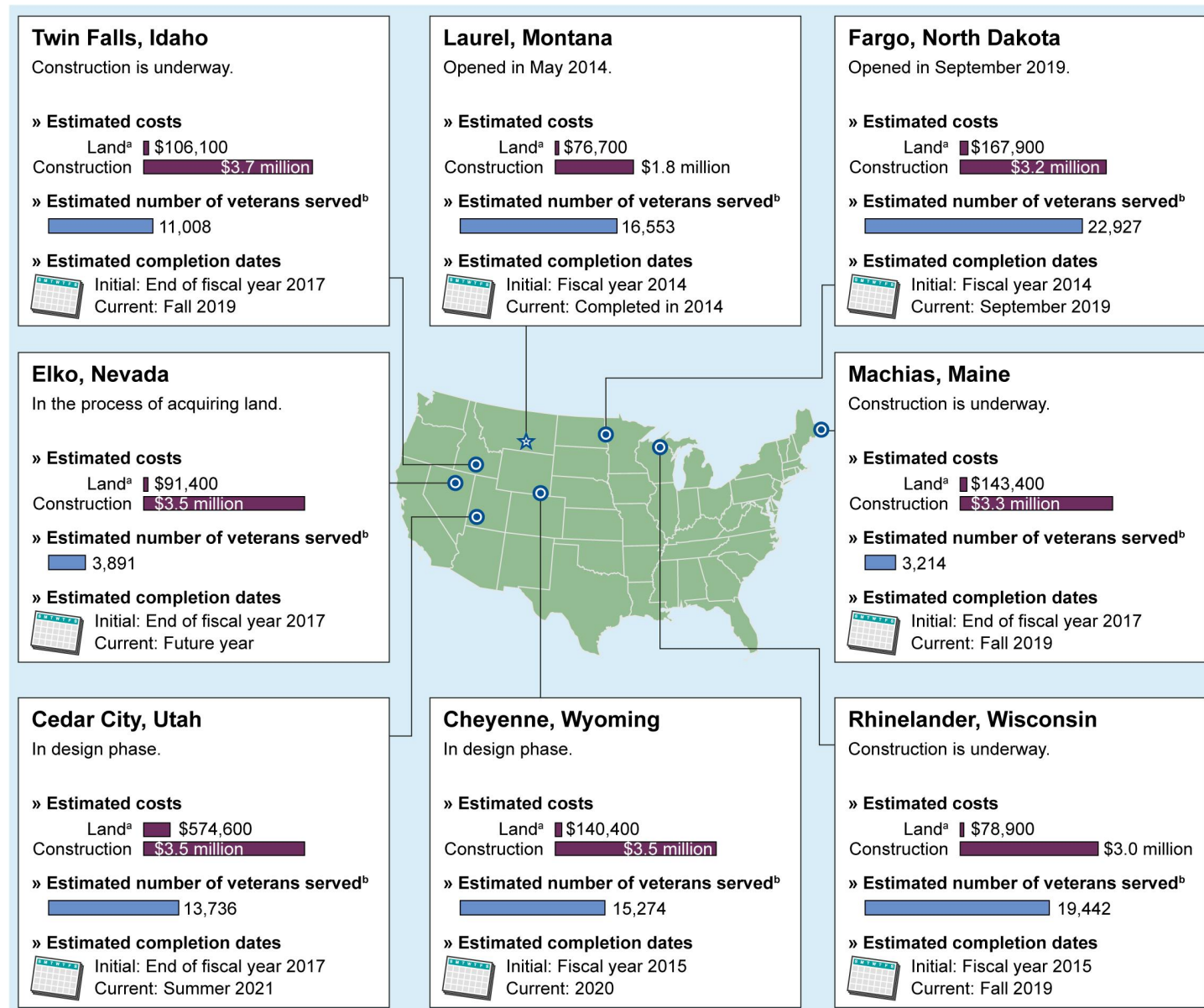
^aEstimated costs for land include due diligence and land acquisition and have been rounded to the nearest hundred. Estimated construction costs have been rounded to the nearest hundred thousand.

^bNCA's estimated number of veterans served includes the total veteran population within 75 miles of the urban initiative site. According to VA, the population data are updated every 2 to 3 years. NCA officials stated that each urban initiative site will provide new or enhanced burial access to the veteran population.

As shown in figure 2, NCA has opened two of its rural initiative sites, in Laurel, Montana, and Fargo, North Dakota. However, the completion dates for the other six rural initiative sites have slipped multiple times. In

September 2019, NCA officials stated that the planned completion dates for the rural initiative sites were currently Fall 2019 for Twin Falls, Idaho, Machias, Maine, and Rhineland, Wisconsin; sometime in 2020 for Cheyenne, Wyoming; and Summer 2021 for Cedar City, Utah. NCA did not provide a specific estimated completion date for the site in Elko, Nevada, affirming that it would be completed “in a future year.”

Figure 2: National Cemetery Administration's (NCA) Estimates of Costs, Numbers of Veterans Served, and Status of the Rural Initiative Sites, as of September 2019



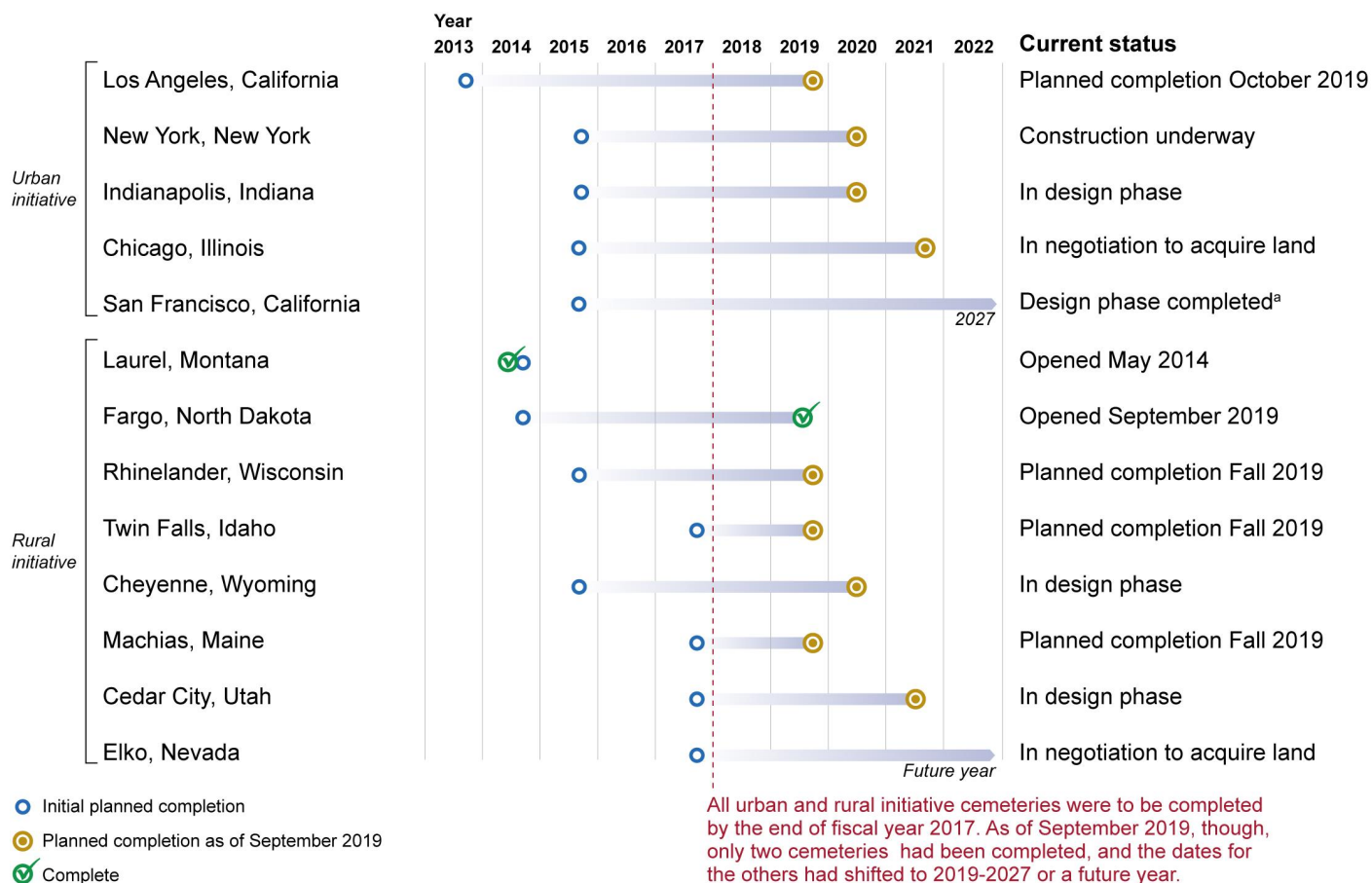
Source: Department of Veterans Affairs (VA) information; Map Resources (map). | GAO-19-121

^aEstimated costs for land include due diligence and land acquisition and have been rounded to the nearest hundred. Estimated construction costs have been rounded to the nearest hundred thousand.

^bNCA's estimated number of veterans served includes the total veteran population within 75 miles of the urban initiative site. According to VA, the population data are updated every 2 to 3 years. NCA officials stated that each rural initiative site will provide new burial access to the veteran population.

When we asked NCA officials why the rural and urban initiative sites were currently projected to take years longer to complete than originally planned, they replied that they might have overstated their 2014 expectations for having all initiative sites completed by the end of fiscal year 2017. NCA officials also stated that it takes at least 12 months for the land acquisition phase of cemetery construction projects; 9 to 12 months for the design phase; and 12 to 15 months—sometimes up to 30—for the construction phase. According to NCA officials, as of September 2019, five of the 11 initiative sites had reached the construction phase, and one of the sites no longer had an estimated completion date. There were still some outstanding or unresolved issues that had complicated NCA's ability to estimate a completion date for the site in Elko, Nevada. See figure 3 for a timeline of each of NCA's urban and rural initiative sites as of September 2019.

Figure 3: National Cemetery Administration's (NCA) Timeline for Urban and Rural Initiative Sites, as of September 2019



Source: GAO analysis of Department of Veterans Affairs (VA) information. | GAO-19-121

^aAccording to NCA officials, major geotechnical and soil issues were encountered for the site in San Francisco, California. As a result, a design solution must be provided to resolve these issues before the project can move forward. As of July 2019, the planned completion for this site has now slipped to 2027.

NCA Has Faced Challenges in Implementing Its Efforts to Increase Access to Burial Options for Veterans

In executing its plans to increase access to burial options for veterans, NCA has experienced three key challenges: (1) acquiring suitable land for new national cemeteries; (2) estimating the costs associated with establishing new national cemeteries; and (3) using all available data to inform how its Grants Program targets unserved veteran populations.

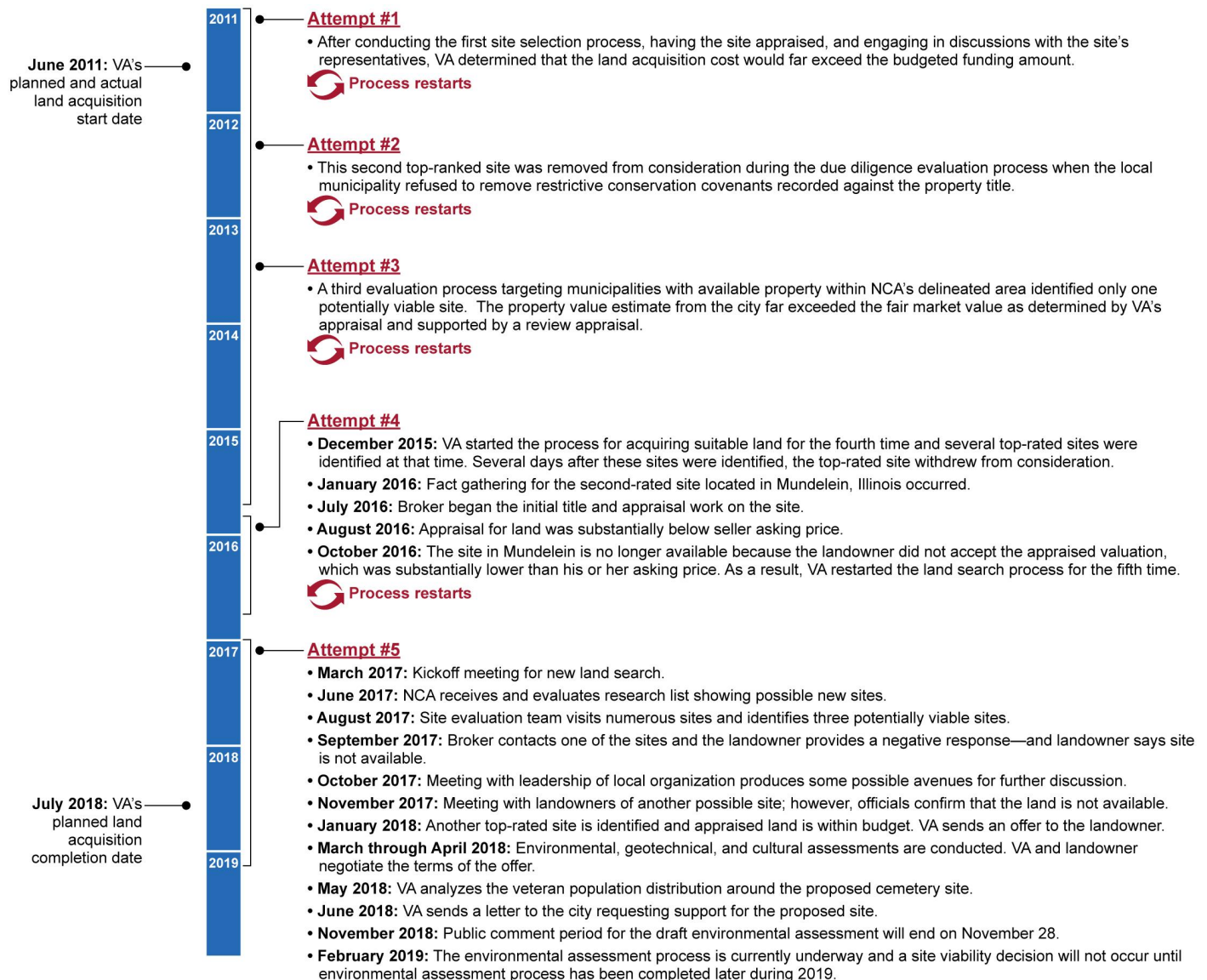
Challenges in Acquiring Land Have Led to Delays in Implementing NCA's Plan

The primary factor that has led NCA to adjust its timelines for completing these cemeteries concerns challenges in acquiring suitable land. Such challenges include difficulty in finding viable land for development, legal issues related to the acquisitions process, and resistance from the local community, among others. Four examples are described below, including two instances in which, as of July 2019, NCA had not yet acquired suitable land, which may further delay the opening of those specific urban and rural sites.

- *Chicago, Illinois.* NCA officials stated that they are on their fifth attempt to acquire land for the urban initiative site in Chicago, Illinois. In addition, they said that the environmental assessment process for the Chicago site is currently underway, and that a site viability decision will not occur until the environmental assessment process is completed later in 2019.¹⁷ According to NCA documentation we reviewed, NCA initiated the land acquisition process for the Chicago site in June 2011 and planned to complete the process by July 2018. If the fifth attempt to acquire land is not successful, then NCA will attempt—for the sixth time—to acquire land. According to NCA officials, this would result in an additional 12 to 18 months to identify and evaluate new property for potential acquisition, likely further delaying the opening of this site. See figure 4 for more details on NCA's attempts to acquire land for the urban initiative site in Chicago.

¹⁷As a federal agency, the VA is subject to the National Environmental Policy Act, and is required to incorporate environmental considerations into its decision-making process for the actions it proposes to undertake for land acquisition. An environmental assessment is prepared to identify, analyze, and document the potential physical, environmental, cultural, and socioeconomic effects associated with the acquisition.

Figure 4: National Cemetery Administration's (NCA) Challenges with Acquiring Suitable Land for the Chicago Urban Initiative Site, 2011-2019



Source: GAO analysis of Department of Veterans Affairs (VA) information. | GAO-19-121

- **Elko, Nevada.** NCA officials stated that they have identified a top-rated site for the rural initiative site in Elko, Nevada, on land currently owned by the Bureau of Land Management. However, according to NCA officials, Congress would need to enact legislation transferring

this land from the Bureau of Land Management to VA before NCA could begin construction.¹⁸ As of June 2019, Congress had not done so.¹⁹ According to NCA officials, VA has opened dialogue with local officials about drafting a utility agreement for the city to construct infrastructure needed to supply water to the site. Implementation of a utility agreement would be dependent upon whether future legislation may potentially be introduced and subsequently passed authorizing the Bureau of Land Management to permanently transfer property to VA for national cemetery use. Also, according to NCA officials, once legislation has passed to allow the transfer of land from the Bureau of Land Management to VA, they estimate it will take 12 to 18 months for the land transfer to be completed.

- *Indianapolis, Indiana.* In a written response, NCA officials stated that construction for the urban initiative site in Indianapolis, Indiana, has been delayed by about a year due to a public protest of NCA's acquisition of the site because of environmental concerns, which resulted in a land transfer with the previous landowner in January 2019. In addition, NCA had to conduct a partial project re-design for the exchanged property. According to NCA's May 2018 plan of actions and milestones, it had expected to have acquired the land for the Indianapolis site by August 2018 and to have completed construction in December 2019. However, officials told us in September 2018 that, due to the delays in acquiring the land, NCA had revised its planned construction completion date to August 2020.
- *Los Angeles, California.* According to officials, NCA is partnering with the Veterans Health Administration, which transferred property for the proposed columbarium at the Los Angeles, California, urban initiative site. Officials stated that this project was delayed initially due to the need to remove existing encumbrances on the land (for example, leases with tenants), among other things. In July 2019, officials stated that the project is scheduled for completion in October 2019.

According to NCA officials, unforeseen site conditions can also contribute to delays in cemetery construction projects. During the design phase, soil and geotechnical samples are taken but do not cover the entire site. After excavation begins, issues such as rock formations or hazardous waste not identified during the geotechnical investigation may create challenges

¹⁸According to NCA officials, the Bureau of Land Management does not currently have statutory authority to transfer this land to VA in perpetuity for use as a cemetery.

¹⁹A Senate bill was introduced in February 2018 to transfer the land to VA, but no further action was taken. Elko National Cemetery Act, S. 2414, 115th Cong. (2018).

to developing land for cemetery use. For example, in July 2019 NCA officials stated that the urban initiative site in San Francisco had encountered major geotechnical and soil issues, causing the project completion to slip to 2027. Also, according to NCA's 2017 annual status report to Congress on new national cemeteries, the cemetery construction contract for a new cemetery construction project in Western New York could not begin solicitation until additional parcels of land had been acquired. Those parcels of land have a gas well and a gas pipeline that must be relocated. According to NCA officials, as of September 2019, six of the 11 urban and rural initiative sites had not yet begun to be excavated, and any issues that arise during the excavation process at these sites could pose further scheduling delays.

NCA's Cost Estimates for Most of Its Rural Initiative Sites Have Increased Significantly

We found that NCA's cost estimates for seven rural initiative sites have increased significantly above what NCA officials had initially estimated.²⁰ In its strategy, NCA had estimated that the construction cost estimate for each of the seven rural initiative sites would be approximately \$1 million (totaling approximately \$7 million). However, NCA officials told us in August 2018 that the construction cost estimates for these sites had increased to more than \$3 million each (totaling almost \$24 million). This amounts to a cost increase of more than 200 percent.²¹ Further, the information they provided was not always consistent. For example, in July 2018 NCA officials provided us the average land acquisition and construction costs for the urban and rural initiatives. According to the document they provided, the average construction cost for each urban initiative cemetery is \$7.5 million. However, in August 2018 NCA stated in a written response that the construction cost estimates for each of the urban initiatives ranged from approximately \$9 million to more than \$22 million, reflecting an average cost of \$13.6 million.

NCA's cost-estimating guidance used to prepare construction cost estimates does not fully incorporate the 12 steps identified in our *Cost*

²⁰According to VA and NCA information, initial cost estimates for three of the five urban initiative sites did not significantly increase, and the cost estimate for one of the sites actually decreased. For the site in San Francisco, we could not determine whether the initial cost estimates increased because this is a joint project.

²¹Officials stated that this increase would not affect their plans in moving forward with these projects.

Guide that should result in reliable and valid estimates that management can use to make informed decisions, as shown in table 2.²² Appendix I provides a detailed summary of our assessment of NCA's cost-estimating guidance.

Table 2: GAO's Assessment of the National Cemetery Administration's (NCA) Cost-Estimating Guidance

Step	Assessment	Step	Assessment
1. Define the estimate's purpose	Substantially Met	7. Develop the point estimate and compare with an independent estimate	Partially Met
2. Develop the estimating plan	Partially Met	8. Conduct a sensitivity analysis	Not Met
3. Define the program characteristics	Substantially Met	9. Conduct a risk analysis	Minimally Met
4. Determine the estimating structure	Partially Met	10. Document the estimate	Substantially Met
5. Identify ground rules and assumptions	Minimally Met	11. Present estimate to management	Partially Met
6. Obtain the data	Fully Met	12. Update the estimate	Substantially Met

Source: GAO analysis of NCA information | GAO-19-121

Notes:

Fully Met: NCA provided complete evidence that satisfies the elements of the best practice;

Substantially Met: NCA provided evidence that satisfies a large portion of the elements of the best practice;

Partially Met: NCA provided evidence that satisfies about half of the elements of the best practice;

Minimally Met: NCA provided evidence that satisfies a small portion of the elements of the best practice; and

Not Met: NCA provided no evidence that satisfies any of the elements of the best practice.

Specifically, NCA's cost-estimating guidance fully met one step, substantially met four steps, partially met four steps, minimally met two steps, and did not meet one step. For example:

- NCA's cost-estimating guidance fully met the step of "obtaining the data" in that it requires a market survey that explores all factors that will affect the bid cost and collects valid and useful historical data to develop a sound cost estimate.
- NCA's cost-estimating guidance substantially met the step of "updating the estimate" in that it requires cost estimates to be regularly updated. For instance, it requires an updated cost-estimating report at each stage of the design of the construction project.

²²[GAO-09-3SP](#).

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- NCA's cost-estimating guidance minimally met the step of "conducting a risk and uncertainty analysis" in that, while it mentions the inclusion of a risk analysis, it does not describe what a risk analysis is and how it relates to cost. Additionally, none of the guidance we reviewed contains any discussion of risk management.
 - NCA's cost-estimating guidance did not meet the step of "conducting a sensitivity analysis." According to our Cost Guide, a sensitivity analysis should be included in all cost estimates because it examines the effects of changing assumptions and ground rules. Because uncertainty cannot be avoided, it is necessary to identify the cost elements that represent the most risk, and cost estimators should if possible quantify the risk.

NCA uses multiple guidance documents on cost estimation and requires that managers and contractors use all of these documents in implementing their projects. Specifically, NCA uses VA's 2011 *Manual for Preparation of Cost Estimates and Related Documents for VA Facilities (Manual)*; VA's 2011 *Architect/Engineer (A/E) Submission Requirements for National Cemetery Projects Program Guide PG 18-15 Volume D (Guide)*; and NCA's Construction Program Conceptual Estimate Worksheet. We refer to these documents collectively as "NCA's cost-estimating guidance."

We previously reported on VA's management of minor construction projects and made several recommendations, including that the Veterans Health Administration²³ revise its cost-estimating guidance to incorporate the 12 steps presented in the *Cost Guide*, to help VA have greater assurance that its cost estimates for minor construction projects are reliable.²⁴ VA concurred and stated that it would ensure that the Veterans Health Administration update its cost-estimating guidance by incorporating the 12 steps outlined in the *Cost Guide*, as applicable.²⁵ As of August 2019, VA had not taken any action to implement this recommendation. The guidance document it plans to update, the *VA Manual*, is also used by NCA. Further, NCA uses additional guidance

²³Veterans Health Administration is one of the three administrations that comprise the VA. The other two are the National Cemetery Administration and the Veterans Benefits Administration.

²⁴[GAO-09-3SP](#).

²⁵GAO, *VA Construction: Management of Minor Construction and Non-Recurring Maintenance Programs Could Be Improved*, [GAO-18-479](#) (Washington, D.C.: July 31, 2018).

documents to develop cost estimates for its cemetery construction projects—including the urban and rural initiatives—that do not fully incorporate the 12 steps presented in the *Cost Guide*. Without NCA's revising its cost-estimating guidance to more fully reflect the 12 steps in the *Cost Guide*, including "conducting a risk and uncertainty analysis," NCA will not be well-positioned to provide reliable cost estimates to VA and enable it to make informed decisions regarding the management of cemetery construction projects.

NCA's Grants Program Does Not Use All Available Data for Targeting Unserved Veteran Population Sites

As noted earlier, the Grants Program is part of NCA's plan to increase veterans' reasonable access to burial options. According to NCA officials, their plan to meet their strategic goal of 95 percent of veterans being served by burial options relies, in part, on the state and tribal government efforts funded by the Grants Program. The Grants Program, in turn, relies on states and tribal governments applying for funding to build new cemeteries or expand existing cemeteries. An NCA official told us that NCA does not have the authority to formally request that a state seek grant funding to expand access in an unserved area. However, according to VA officials, the Grants Program has had informal discussions with states that it believes have larger concentrations of unserved veterans, in order to encourage grant applications to provide increased burial access for unserved veteran populations.

When reviewing grant applications, NCA considers a number of factors, including how the grant would enhance access for unserved veterans. NCA officials stated that they use the VA's county-level population data to identify veteran population areas unserved by national, state, or tribal government veterans' cemeteries. This analysis also allows NCA to project where additional state and tribal government veterans' cemeteries may be most needed. Specifically, NCA has ranked what it identified as the 40 largest currently unserved veteran population areas. NCA performs this ranking at the county level, not the more precise census tract level, although as we have previously reported it has the technical ability to use census tract data.

In September 2014, we reported that NCA was using population data at the county level to identify veterans not served by burial options, and that using population data at the census tract level would enhance NCA's

management of the national cemetery program.²⁶ Specifically, we recommended that NCA use its existing capabilities to estimate the served and unserved veteran populations using census tract data. This would have allowed them to make better-informed decisions concerning where to locate new national cemeteries, as well as identify which state and tribal government cemetery grant applications would provide reasonable burial access to the greatest number of veterans. However, VA did not concur with that recommendation. In its comments on our draft report, VA agreed that census tract data may yield more precise information than county-level population data, but it disagreed with our conclusion that the use of census tract data would have helped VA to make better-informed decisions regarding the location of burial options.

For this review, we performed an analysis using census tract data to examine the 40 prospective sites that NCA has identified as the currently largest unserved areas, using current veteran population data. Our analysis yielded estimates for veterans in the service areas for these prospective sites that differed substantially in some instances from the numbers used by NCA (see figure 5). For example, NCA ranked Erie, Pennsylvania, as 4th on its list of prospective sites, based on its estimate that an additional 45,154 veterans could be served by a cemetery at this location. However, using census tract data we estimate that only about 10,000 veterans could be served there, resulting in a lower priority for Erie, Pennsylvania, on this list of prospective sites.²⁷ Similarly, the county-based methodology used by NCA ranked Decatur, Alabama, as 25th on the list of prospective sites, while our methodology based upon nearby census tracts placed it 2nd on the list by estimated number of veterans in the service area.²⁸ Thus, even though it could serve many additional veterans, Decatur, Alabama, would not be ranked highly on the list for funding using NCA's methodology.

²⁶[GAO-14-537](#).

²⁷The 90 percent confidence interval for our estimate of 10,000 veterans in the Erie, Pennsylvania, service area is (9,600, 10,500).

²⁸We estimate that the number of veterans located in the service area around Decatur, Alabama, is about 51,700 veterans, with a 90 percent confidence interval of (50,300 , 53,100). The methodology used by NCA estimates that there are about 18,500 veterans in this service area.

Figure 5: Comparison between National Cemetery Administration's (NCA) and GAO's Ordering of 40 Remaining Prospective Sites Based on NCA's Ability to Provide Additional Access to Burial Options

GAO			NCA		
Site	Estimate of additional veterans within service area ^a	Ordering	Ordering	Estimate of additional veterans within service area	Site
Utica, New York	60,700	1	1	55,232	Utica, New York
Decatur, Alabama	51,700	2	2	54,633	San Luis Obispo, California
Prosser, Washington	48,000	3	3	52,278	Prosser, Washington
Hollidaysburg, Pennsylvania	44,400	4	4	45,154	Erie, Pennsylvania
Lancaster, Ohio	41,400	5	5	42,008	Sioux Falls, South Dakota
Traverse City, Michigan	41,400	6	6	41,951	New Boston, Texas
Shawnee, Oklahoma	39,900	7	7	41,276	Traverse City, Michigan
Naples, Florida	39,400	8	8	41,009	Tyler, Texas
Sioux Falls, South Dakota	39,000	9	9	40,344	Panama City, Florida
Tyler, Texas	36,700	10	10	39,478	Bellingham, Washington
Panama City, Florida	35,100	11	11	36,284	Hollidaysburg, Pennsylvania
San Luis Obispo, California	34,600	12	12	34,325	Evansville, Indiana
Evansville, Indiana	34,100	13	13	34,132	Naples, Florida
Elba, Alabama	32,100	14	14	30,251	Elba, Alabama
New Boston, Texas	32,000	15	15	30,200	Lancaster, Ohio
Scranton, Pennsylvania	29,700	16	16	29,566	Shawnee, Oklahoma
Amarillo, Texas	23,800	17	17	27,936	Scranton, Pennsylvania
Yuma, Arizona	22,300	18	18	26,701	Yuma, Arizona
Bellingham, Washington	22,000	19	19	26,085	Amarillo, Texas
Lubbock, Texas	21,900	20	20	24,168	Lubbock, Texas
Midland, Texas	21,300	21	21	21,296	Idaho Falls, Idaho
Idaho Falls, Idaho	19,900	22	22	21,179	Midland, Texas
Bend, Oregon	19,700	23	23	20,596	Waterloo, Iowa
Beaumont, Texas	19,500	24	24	19,788	Bend, Oregon
Lancaster, Wisconsin	18,800	25	25	18,459	Decatur, Alabama
Marquette, Michigan	17,600	26	26	17,796	Beaumont, Texas
Waterloo, Iowa	17,100	27	27	17,220	Marquette, Michigan
Grand Island, Nebraska	16,400	28	28	15,978	Redway, California
Aztec, New Mexico	15,300	29	29	15,966	Grand Island, Nebraska
Redway, California	12,700	30	30	12,539	Kalispell, Montana
Kalispell, Montana	11,900	31	31	12,112	Lancaster, Wisconsin
Clovis, New Mexico	11,200	32	32	11,510	Clovis, New Mexico
Erie, Pennsylvania	10,000	33	33	10,318	Tifton, Georgia
Bemidji, Minnesota	9,700	34	34	9,487	Bemidji, Minnesota
Burlington, North Dakota	9,100	35	35	8,854	Bozeman, Montana
Tifton, Georgia	8,900	36	36	8,756	Burlington, North Dakota
Carlsbad, New Mexico	7,300	37	37	7,774	Carlsbad, New Mexico
Del Rio, Texas	6,100	38	38	7,769	Aztec, New Mexico
Laredo, Texas	5,900	39	39	7,202	Del Rio, Texas
Bozeman, Montana	5,300	40	40	7,042	Laredo, Texas

Source: GAO analysis of Department of Veterans Affairs (VA) and census tract data. | GAO-19-121

Notes:

All estimates are based on current population.

All estimates of total veterans derived from American Community Survey 5-year census tract data are rounded to the nearest 100.

GAO estimates of additional veterans within a service area have a margin of error no greater than plus or minus X veterans at the 90 percent level of confidence.

X = the largest half-width of the 90 percent confidence intervals, rounded to the nearest 100 veterans. GAO estimates of additional veterans within a service area have a margin of error no greater than plus or minus 1,400 veterans at the 90 percent level of confidence.

^aWe used census tract data to estimate the number of additional veterans who would be served within the service area. Census tracts are small, relatively permanent statistical subdivisions of counties that

generally have a total population size between 1,200 and 8,000 people, with an optimum size of 4,000 people. Census tract boundaries are delineated with the intention of being maintained over a long time so that statistical comparisons can be made from census to census.

By using the more precise census tract data to help inform its grant-making decisions, NCA could enhance its ability to implement its plan to provide burial options to unserved veterans. Comparing estimates of unserved veterans based on current census tract data with such estimates based on current county-level data can be a useful supplement to NCA's current reliance on long-term projected county-level population data.²⁹ Comparing census tract data with county-level data could also identify areas where the county-level projections might be overridden or require additional scrutiny. This could position NCA to better identify those areas of the country that will have the most significant unserved veteran populations. Additionally, this could help NCA refine its current plans or develop new ones, as it deems appropriate. We therefore continue to maintain the validity of our 2014 recommendation for VA to use census tract data to estimate the served and unserved veteran populations to help inform its plans for providing reasonable access to burial options.

Conclusions

By NCA's estimates, more than 2.1 million veterans—about 10 percent of the veterans in the United States—did not have reasonable access to burial options at the end of fiscal year 2013. According to NCA, its plan had helped increase the percentage served by burial options to about 92 percent of the veteran population by the end of fiscal year 2018. However, completion of some of the urban and rural sites that are part of NCA's plan is currently estimated to take 5 years or longer than planned at significantly higher cost, in part because construction cost estimates for the remaining sites may be unreliable. Without NCA's revising its cost-estimating guidance to more fully reflect the 12 steps in the *Cost Guide*, including "conducting a risk and uncertainty analysis," NCA will not be well-positioned to provide reliable cost estimates to VA and enable it to

²⁹As noted earlier, NCA prioritizes pending grant applications by giving the highest priority to cemetery construction projects in geographic locations with the greatest projected number of veterans who will benefit from the project, as determined by NCA based on county-level population projections. NCA performs these projections using VA's Veteran Population Projection Model, which projects living and deceased veteran counts for the next 30 years by key demographic characteristics such as age, gender, period of service, and race/ethnicity.

make informed decisions regarding the funding and oversight of NCA's ongoing minor construction projects to enhance veterans' burial options.

Recommendation for Executive Action

The Secretary of Veterans Affairs should ensure that the Under Secretary for Memorial Affairs update its cost-estimating procedures for cemetery construction projects to fully incorporate the 12 steps identified in the *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*.

Agency Comments

We provided a draft of this report to VA for review and comment. In written comments, VA concurred with our recommendation. VA also provided technical comments, which we incorporated as appropriate. VA's comments are printed in their entirety in appendix II.

In its technical comments, VA disagreed with our finding that NCA had made limited progress implementing its plan for increasing burial access for veterans and stated that NCA had instead made significant progress. As we note in this report, in 2014, NCA planned to open 18 new sites by the end of fiscal year 2017 to better serve the burial needs of the veteran population. However, as of September 2019, only six of the planned sites were open, with NCA years behind its original schedule. For this reason, we characterized the progress as "limited." While the progress has been limited, it is important to note that the opening of the six sites has increased accessibility of burial options to veterans.

VA also stated that it continues to disagree with our 2014 recommendation that VA use census tract data to estimate the current served and unserved veteran populations to inform its plans for providing reasonable access to burial options. In its written response, VA stated that we recommended NCA use census tract rather than county-level data. However, that is not what we recommended. As we stated in this report, comparing estimates of unserved veterans based on current census tract data with estimates based on current county-level data would provide a useful supplement to NCA's current reliance on long-term projected county-level population data. Specifically, NCA would be better positioned to identify those areas of the country that will have the most

significant unserved veteran populations and refine its current plans or develop new ones, as it deems appropriate.

We are sending copies of this report to interested congressional committees and the Secretary of Veterans Affairs. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-9627 or maurerd@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff members who made key contributions to this report are listed in appendix III.



Diana Maurer
Director
Defense Capabilities and Management

List of Committees

The Honorable John Boozman
Chairman
The Honorable Brian Schatz
Ranking Member
Subcommittee on Military Construction, Veterans' Affairs, and Related
Agencies
Committee on Appropriations
United States Senate

The Honorable Debbie Wasserman Schultz
Chairwoman
The Honorable John Carter
Ranking Member
Subcommittee on Military Construction, Veterans Affairs, and Related
Agencies
Committee on Appropriations
House of Representatives

Appendix I: GAO Assessment of the National Cemetery Administration's (NCA) Guidance for Developing Cemetery Construction Cost Estimates

We compared NCA's cost-estimating guidance with the 12 steps identified in the *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs (Cost Guide)*.¹ We found that NCA's cost-estimating guidance on preparing cost estimates for cemetery construction projects—specifically Department of Veterans Affairs' (VA) *Manual for Preparation of Cost Estimates & Related Documents for VA Facilities (Manual)*, VA's *Architect/Engineer Submission Requirements for National Cemetery Projects, Program Guide 18-15 Volume D (Guide)*, and NCA's Construction Program Conceptual Estimate Worksheet (Worksheet)—does not fully incorporate these 12 steps, as shown in table 3. The guidance incorporates some of the 12 steps to some degree, but not others, raising the possibility of unreliable cost estimates for NCA's urban and rural initiatives. Specifically, NCA's guidance on preparing cost estimates:

- fully or substantially met five of the 12 steps,
- partially met four of the 12 steps, and
- minimally met or did not meet three of the 12 steps.

¹GAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs* (Supersedes [GAO-07-1134SP](#)), [GAO-09-3SP](#) (Washington, D.C.: March 2009).

Appendix I: GAO Assessment of the National Cemetery Administration's (NCA) Guidance for Developing Cemetery Construction Cost Estimates

Table 3: Summary Assessment of the National Cemetery Administration's (NCA) Cost-Estimating Guidance as Compared with the Twelve Steps Needed to Develop a High-Quality, Reliable Cost Estimate

Steps	GAO's overall assessment	GAO's summary assessment of NCA's guidance	NCA's response
1. Define estimate's purpose	Substantially Met	<p>According to the GAO <i>Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs (Cost Guide)</i>,^a the purpose of a cost estimate is determined by its intended use and its intended use determines its scope and detail. To determine an estimate's scope, cost analysts must identify the customer's needs. Without understanding the estimate's purpose and scope, the estimate may not reflect the context to meet the customer's needs.</p> <p>The NCA guidance^b advises that the level of detail provided be more refined as the program is designed. However, the guidance does not require that the estimate's purpose and scope be defined. NCA provided evidence of requiring the estimate's purpose to be described.</p>	NCA provided additional documentation that enabled us to raise the score to Substantially Met. The step is not Fully Met, as this evidence refers to the purpose and scope of a specific project being estimated and is not general guidance itself.
2. Develop the estimating plan	Partially Met	<p>According to our <i>Cost Guide</i>, an analytic approach to cost estimates typically entails a written estimating plan detailing a master schedule of specific tasks, responsible parties, and time frames. Enough time should be scheduled to collect data, including visits to contractor sites to further understand the strengths and limitations of the data that have been collected. If there is not enough time, then the schedule constraint should be clearly identified in the ground rules and assumptions, so that management understands the effect on the estimate's quality and confidence.</p> <p>NCA guidance describes how to develop a master plan, which includes the cost estimate. However, it does not discuss the importance of having sufficient time for estimating or data collection.</p>	NCA stated that it has a Cemetery Master Plan, which is a 5-year long- range plan for developing cemeteries. However, the plan in this step refers to planning and developing the cost estimate, not an overall project plan. Therefore, the score did not change.
3. Define the program's characteristics	Substantially Met	<p>According to our <i>Cost Guide</i>, key to developing a credible estimate is having an adequate understanding of the project that usually takes form in a technical baseline. A technical baseline should include a description of the project, define the requirements, and document the underlying technical and project assumptions necessary to develop a cost estimate and update changes as they occur.</p> <p>Not all of NCA's guidance describes how the technical information supporting a project is developed and reported. However, examples of the technical information included were provided.</p>	NCA stated that the life-cycle cost analysis will be added to the <i>Guide</i> . Also, NCA provided an additional example of technical information that makes the score for this step Substantially Met. The step is not Fully Met, as the document provided is not evidence of a policy requirement.

Appendix I: GAO Assessment of the National Cemetery Administration's (NCA) Guidance for Developing Cemetery Construction Cost Estimates

Steps	GAO's overall assessment	GAO's summary assessment of NCA's guidance	NCA's response
4. Determine the estimating structure	Partially Met	<p>According to our <i>Cost Guide</i>, a work breakdown structure is the cornerstone of every program because it defines in detail the work necessary to accomplish a program's objectives. For example, a typical work breakdown structure reflects the requirements, what must be accomplished to develop a program, details common elements, and provides a basis for identifying resources and tasks for developing a program cost estimate.</p> <p>NCA's guidance requires a work breakdown structure but does not include a dictionary of the cost elements. In addition, the work breakdown structure does not contain supporting elements, such as program management.</p>	NCA stated that more information about the work breakdown structure will be in the update to the Guide. As no additional evidence was provided at this time, the score for this step remains the same.
5. Identify ground rules and assumptions	Minimally Met	<p>According to our <i>Cost Guide</i>, cost estimates are typically based on limited information and therefore need to be bound by the constraints that make estimating possible. These constraints are usually made in the form of assumptions. It is imperative that cost estimators document all assumptions well and test them for risk to portray the effects of any assumptions changing, so that management fully understands the conditions the estimate was based on. Such documentation and analysis provides management with an invaluable perspective on its decision. Additionally, cost estimators must ensure that assumptions are not arbitrary and that they are founded on expert judgments rendered by experienced program and technical personnel.</p> <p>Although we found no evidence of specific guidance for the definitions of ground rules and assumptions in the NCA guidance, there is mention of documenting inflation indices.</p>	NCA provided a list of commonly used ground rules and assumptions. NCA also stated that requirements and assumptions are given in an annual letter for the budget process. However, no additional evidence about the assumptions, such as how they are developed or approved, was provided. Therefore, the score remains the same.
6. Obtain the data	Fully Met	<p>According to our <i>Cost Guide</i>, credible cost estimates are rooted in historical data. Estimators usually develop estimates for new programs by relying on data from existing programs and adjusting for any differences. Thus, collecting valid and useful historical data is a key step in developing a sound cost estimate. One way of ensuring that the data are applicable is to perform checks of reasonableness to see if the results are similar.</p> <p>The guidance requires a market survey that collects valid and useful historical data.</p>	No additional evidence was provided; therefore, the score remains the same.

Appendix I: GAO Assessment of the National Cemetery Administration's (NCA) Guidance for Developing Cemetery Construction Cost Estimates

Steps	GAO's overall assessment	GAO's summary assessment of NCA's guidance	NCA's response
7. Develop the point estimate and compare to an independent cost estimate	Partially Met	<p>According to our <i>Cost Guide</i>, this step pulls all the information together to develop the point estimate—the best guess at the estimate given the underlying data. This includes the estimate's format, methodology, and validation process.</p> <p>NCA guidance gives high level guidance on how to create an estimate and provides a template. However, there are no details on what methodology to use, no time phasing, and no requirement for an independent estimate.</p>	No change to the score was made, as the additional evidence NCA provided did not offer any additional information about how to create estimates or require independent cost estimates.
8. Conduct a sensitivity analysis	Not Met	<p>According to our <i>Cost Guide</i>, a sensitivity analysis should be included in all cost estimates because it examines the effects of changing single assumptions. Without a sensitivity analysis, the cost estimator will not fully understand which variable most affects the cost estimate.</p> <p>NCA's guidance does not require a sensitivity analysis.</p>	According to NCA's response, it applied sensitivity through adjustments for scope contingency. These adjustments vary and include factors such as unsuitable soil or encountering rocks. No evidence of this was provided. Therefore, no change was made to the score.
9. Conduct a risk and uncertainty analysis	Minimally Met	<p>According to our <i>Cost Guide</i>, a quantitative risk and uncertainty analysis provides a way to assess the variability in the point estimate. Having a range of costs around a point estimate is more useful to decision makers because it conveys the level of confidence in achieving the most likely cost and also informs them on cost, schedule, and technical risks.</p> <p>Only one of VA's cost estimating guidance documents we reviewed states that a risk analysis should be conducted, but it does not state how it relates to the cost estimate. NCA's Worksheet has a place for contingency but no guidance on how to calculate it.</p>	NCA provided an example of a conceptual estimate worksheet with the contingency identified. However, this is not enough evidence of policy requiring a risk and uncertainty analysis in order to raise the score.
10. Document the estimate	Substantially Met	<p>According to our <i>Cost Guide</i>, documentation provides total recall of the estimate's detail so that the estimate can be replicated by someone unfamiliar with the program. It also serves as a reference to support future estimates. Documenting the cost estimate makes available a written justification showing how it was developed and aiding in updating it as key assumptions change and more information becomes available. According to the <i>Cost Guide</i>, some of the items that should be documented include program inputs, estimating method by work breakdown structure cost element, sensitivity analysis, risk and uncertainty analysis, management approval, and updates to the estimate.</p> <p>NCA's guidance provides a template for creating an estimate and discusses what to include in the basis of estimate. However, there is limited guidance on how to write the supporting documentation.</p>	NCA stated that the <i>Guide</i> requires creating Basis of Design reports that contain information about the project such as technical issues, design decisions, assumptions, and methods. Upon further study of the <i>Guide</i> and the Basis of Design reports requirement, the score was raised to Substantially Met.

Appendix I: GAO Assessment of the National Cemetery Administration's (NCA) Guidance for Developing Cemetery Construction Cost Estimates

Steps	GAO's overall assessment	GAO's summary assessment of NCA's guidance	NCA's response
11. Present estimate to Management	Partially Met	<p>According to our <i>Cost Guide</i>, providing a briefing to management about how the estimate was constructed—including the specific details about the program's technical characteristics, assumptions, data, cost-estimating methodologies, data, sensitivity, risk, and uncertainty—is necessary for management to have confidence that the estimate is accurate, complete, and high in quality. Furthermore, a cost estimate is not considered valid until management has approved it. The briefing should be clear and complete so that those who are unfamiliar with it can easily comprehend the competence that underlies the estimate results.</p> <p>The guidance mentions getting management approval, but it does not provide details on how to do this.</p>	<p>NCA provided a briefing to leadership that discusses the overall construction budget. Since the briefing did not show approval of the cost estimate itself, this is not enough evidence to raise the score. Additionally, it did not provide evidence that management approval is required by policy.</p>
12. Update the estimate	Substantially Met	<p>According to our <i>Cost Guide</i>, cost estimates must be updated whenever requirements change, and the results should be reconciled and recorded against the old estimate baseline. The documented comparison between the current estimate (updated with actual costs) and the old estimate allows the cost estimator to determine the level of variance between the two estimates. In other words, it allows estimators to see how well they are estimating and how the program is changing over time.</p> <p>NCA's guidance states that the cost estimate should be updated at each stage of the design phase. However, it does not require documentation of lessons learned.</p>	<p>No additional evidence was provided; therefore, the score remains the same.</p>

Source: GAO assessment of NCA's cost-estimating guidance. | GAO-19-121

Notes:

Fully Met: NCA provided complete evidence that satisfies the elements of the best practice;

Substantially Met: NCA provided evidence that satisfies a large portion of the elements of the best practice;

Partially Met: NCA provided evidence that satisfies about half of the elements of the best practice;

Minimally Met: NCA provided evidence that satisfies a small portion of the elements of the best practice; and

Not Met: NCA provided no evidence that satisfies any of the elements of the best practice.

^aGAO, *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs* (Supersedes [GAO-07-1134SP](#)), [GAO-09-3SP](#) (Washington, D.C.: March, 2009).

^bThe NCA cost-estimating guidance we reviewed includes two Department of Veterans Affairs (VA) documents and one NCA document that NCA staff rely on to guide their cost estimating efforts—*VA's Manual for Preparation of Cost Estimates & Related Documents for VA Facilities*, *VA's Architect/Engineer Submission Requirements for National Cemetery Projects*, *Program Guide 18-15 Volume D*, and NCA's Construction Program Conceptual Estimate Worksheet.

Appendix II: Comments from the Department of Veterans Affairs



DEPARTMENT OF VETERANS AFFAIRS
WASHINGTON DC 20420

SEP 13 2019

Ms. Diana Maurer
Director
Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Maurer:

The Department of Veterans Affairs (VA) has reviewed the Government Accountability Office (GAO) draft report: **VETERANS AFFAIRS: Additional Actions Needed to Increase Veterans' Burial Access** (GAO-19-121).

The enclosure contains technical comments, and the actions to be taken to address the draft report recommendation. VA appreciates the opportunity to comment on your draft report.

Sincerely,

A handwritten signature in blue ink, appearing to read "Pamela Powers".

Pamela Powers
Chief of Staff

Enclosure

Enclosure

Department of Veterans Affairs (VA) Comments to
Government Accountability Office (GAO) Draft Report
**VETERANS AFFAIRS: Additional Actions Needed to Increase
Veterans' Burial Access**
(GAO-19-121)

GAO Recommendation: The Secretary of Veterans Affairs should ensure that the Under Secretary for Memorial Affairs update its cost-estimating procedures for cemetery construction projects to fully incorporate the 12 steps identified in the *GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*.

VA Comment: Concur. The VA National Cemetery Administration (NCA) has reviewed and considered the recommendation to use GAO's 12-step methodology for developing and managing program costs and agrees that this approach may improve the reliability of cost estimates and performance in managing its minor construction projects. While NCA has completed an initial comparison of its current cost estimating and assessment methodology to the 12-step process and is partially aligned with requirements, NCA plans to fully align with the guide and incorporate all requirements in our Indefinite Delivery/Indefinite Quantity Architect and Engineering contract scope of work. NCA's Design and Construction Service, which manages NCA minor construction projects, will be responsible for fully implementing this recommendation.

Enclosure

Department of Veterans Affairs (VA) Comments to
Government Accountability Office (GAO) Draft Report
**VETERANS AFFAIRS: Additional Actions Needed to Increase
Veterans' Burial Access**
(GAO-19-121)

Technical Comments:

GAO Highlights page, What GAO Found section, Second paragraph: Paragraph reads:

"NCA has made limited progress implementing its plan to increase burial access and is years behind its original schedule for opening new cemeteries. For example, NCA has opened only one of its planned urban and rural initiative sites and is behind its original schedule for the other twelve. The primary factor delaying NCA's completion of these cemeteries has been challenges in acquiring suitable land".

VA Comment: GAO's statement is misleading with respect to NCA's "limited progress" increasing burial access for Veterans. NCA has made significant progress in this regard. Eighteen VA cemeteries will be opened because of new access policies developed in 2011 and 2013. NCA estimates that a total of 503,961 additional Veterans will have access to a VA national cemetery within 75 miles of their homes after the new facilities are opened by Fiscal Year 2022. To date, six new cemeteries have opened providing new burial access to 372,208 Veterans or 74 percent of the estimated additional Veteran population to be served. By Fall 2019, three additional (rural) cemeteries will open providing service to an additional 25,563 Veterans for a total of 79 percent of the estimated population to be served.

With respect to the original schedule for opening new cemeteries, there have been significant factors other than acquiring suitable land that disrupted cemetery development. After the land was acquired for various rural initiative sites, subsequent timelines for the completion of the cemetery design/build process caused unforeseen delays in the cemetery development timeline. For example, after NCA acquired land at Snake River Canyon National Cemetery near Twin Falls, Idaho, construction was delayed during land excavation and development after encountering bedrock and poor soil that had to be mediated or replaced to an appropriate depth for traditional casketed burial. (The Twin Falls regional area has subsurface volcanic rock at varying depths.)

Page 5, Table 1, State veterans' cemeteries row, Number column: Row reads:

"101"

VA Recommended Edit: Revise row to read:

"103"

Enclosure

Department of Veterans Affairs (VA) Comments to
Government Accountability Office (GAO) Draft Report
**VETERANS AFFAIRS: Additional Actions Needed to Increase
Veterans' Burial Access**
(GAO-19-121)

Page 5, Table 1, Tribal government veterans' cemeteries row, Number column:
Row reads:

"11"

VA Recommended Edit: Revise row to read:

"13"

Page 7, First Paragraph, line 12: Sentence reads:

"This includes the establishment of two new state and tribal government veterans' cemeteries. In 2019, NCA expects to provide funding for 17 state and tribal government veterans' cemetery projects, three of which would be for new cemeteries."

VA Comment: Two of the three new establishment grants have been signed which will provide service to approximately 62,000 Veterans. One will open a new cemetery in Sioux Falls, South Dakota, and a second will open a new cemetery in Blackfoot, Idaho.

Page 11, Top of page, First line: Sentence reads:

"...complicated NCA's ability to estimate a completion date for the site in Elko, Nevada. It is unclear, however, why NCA cannot estimate a completion date for the site in Cedar City, Utah."

VA Comment: There is an approximate timeline and schedule in place for Cedar City, Utah. The land was acquired in September 2018, and NCA awarded the design/build contract in early Summer 2019. The Cedar City cemetery master plan process started in July 2019, and design will proceed between now and Spring 2020, followed by construction beginning in Spring 2020 for the completion of the Cedar City site in Summer 2021.

Page 12, Top of page, Second line: Sentence reads:

"Four examples are described below, including two instances where, as of July 2019, NCA had not yet acquired suitable land, which may further delay the opening of these specific urban and rural sites."

VA Comment: While these four examples are accurate, VA expects to open three rural initiative national cemeteries for first burials by Fall 2019. These are Snake River

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Canyon National Cemetery near Twin Falls, Idaho; Northwoods National Cemetery near Rhinelander, Wisconsin; and a third near Machias, Maine, that is pending approval of a name.

Page 17, Line 15, Section title: Section title reads:

***"NCA's Grants Program Does Not Use All Available Data for Targeting
Unserved Veteran Population Sites."***

VA Comment: This headline is misleading. Very few, if any, programs use "all" available data. GAO's point is that NCA does not use census tract data to target unserved Veteran population sites. The headline should be revised to address that point.

Page 17, Second paragraph, Line 22: Line reads:

"An NCA Official told us that NCA does not have the authority to formally request that a state seek grant funding to expand access in an unserved area."

VA Comment: While this is an accurate statement, the Veterans Cemetery Grants Program has had informal discussions with many states with larger concentrations of unserved Veterans to encourage grant applications to provide increased burial access for unserved Veteran populations.

Page 20, top of page: Sentence reads:

"We therefore continue to maintain the validity of our 2014 recommendation for VA to use census tract data to determine its current unserved veteran population to help inform its plans for providing reasonable access to burial options."

VA Comment: In consultation with the VA Office of Enterprise Integration, Office of Data Governance and Analytics, NCA continues to disagree with GAO on the recommendation to use census tract rather than county-level data. VA's Veteran Population Projection Model (VetPop) county level (over 3,100 entities) data is tenuous for many small areas and would be more so at the much smaller tract level (over 73,000 entities). The strong assumptions (e.g., mortality, migration rates) underlying VetPop are not defensible for tracts. In addition, the American Community Survey (ASC) definition of a Veteran includes anyone who has ever served on active duty and does not take discharge status and other factors into account. The VA database *U.S. Veterans Eligibility Trends and Statistics* (USVETS) is more accurate and includes only those Veterans who are eligible for VA services. USVETS is also more complete,

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including records for nearly all Veterans, compared with ACS' much smaller sample of Veterans. Finally, in the future, using data for small areas will be more unreliable if the Census Bureau implements its plan to adjust data (i.e., infuse random noise) for counties and tracts to increase confidentiality protections (differential privacy).

In conclusion, projecting the Veteran population to the tract level would result in substantially reduced reliability and accuracy, thus rendering the estimates statistically indefensible. The Information Quality Act (2001) and the Office of Management and Budget Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies (2001) require influential information, such as VetPop, to be accurate, reliable, and based on sound statistical methods. In addition, the Foundations for Evidence-Based Policymaking Act of 2018 directs agencies to base decisions on high-quality evidence. Between the two laws, projecting the Veteran population to the tract level could not support NCA's decision-making due to the estimates' poor quality. Therefore, VA is unable to concur with GAO's recommended method of analysis.

Page 20, Bottom of page: Sentence reads:

"According to a VA official, VA would be willing to consider other veteran population data when identifying locations for new cemeteries if the request came from state and local officials."

VA Comment: Since this is not attributed to a specific individual with rationale, this should be removed. For the reasons stated previously, VA has a strong justification for using VetPop population data rather than ACS census tract data. Using other Veteran population data based solely on a request from state and local officials is an unjustifiable influence on a fact-based, data-driven process.

Agency Comment Letter

Text of Appendix II: Comments from the Department of Veterans Affairs

Page 1

September 13, 2019

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Director
Defense Capabilities and Management
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441 G Street, NW
Washington, DC 20548

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Pamela Powers Chief of Staff

Enclosure

Page 2

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Office (GAO) Draft Report
VETERANS AFFAIRS: Additional Actions Needed to Increase Veterans' Burial
Access
(GAO-19-121)**

GAO Recommendation:

The Secretary of Veterans Affairs should ensure that the Under Secretary for Memorial Affairs update its cost-estimating procedures for cemetery construction projects to fully incorporate the 12 steps identified in the GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs.

VA Comment:

Concur. The VA National Cemetery Administration (NCA) has reviewed and considered the recommendation to use GAO's 12-step methodology for developing and managing program costs and agrees that this approach may improve the reliability of cost estimates and performance in managing its minor construction projects. While NCA has completed an initial comparison of its current cost estimating and assessment methodology to the 12-step process and is partially aligned with requirements, NCA plans to fully align with the guide and incorporate all requirements in our Indefinite Delivery/Indefinite Quantity Architect and Engineering contract scope of work. NCA's Design and Construction Service, which manages NCA minor construction projects, will be responsible for fully implementing this recommendation.

Page 3

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Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Diana Maurer, (202) 512-9627 or maurerd@gao.gov.

Staff Acknowledgments

In addition to the contact named above, Brian Lepore, Director (Retired); Maria Storts, Assistant Director; Pamela Nicole Harris, Analyst-in-Charge; Brian Bothwell, Jennifer Echard, Alexandra Gonzalez, Jason Lee, Amie Lesser, Serena Lo, John Mingus, Brenda Mittelbuscher, Maria Staunton, Frank Todisco, Cheryl Weissman, and John Wren made significant contributions to this report.

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