DIMENSIONS®

FUNDING REPORT 2020

Dewberry

OUR COMMITMENT

As the most recently appointed member of the board of directors, I have the privilege of addressing Dewberry's clients, colleagues, and employees through this message. Understanding that this issue of *Dimensions* is focused on funding and its identification to further client goals, I have two thoughts: value and diversity.

Many authorities, agencies, and municipalities have seen decreased revenues due to issues such as inconsistent facility usage brought on by stay-at-home orders. I've been speaking with Dewberry's project leadership on the concept of value capture—meaning, how to work with existing and future clients on concepts to overcome shortages in traditional revenue and generate additional revenue streams for that client. My challenge to our architects, engineers, and planners is to bring innovative solutions to clients that tap into the expertise of coworkers familiar with federal, state, municipal, and private funding sources that may be applied to a client's program. Conversely, think externally about the client's assets, such as the value of unused space in existing facilities or new construction. For instance, allowing private industry to add solar farms atop a publicly funded parking structure generates additional revenue for an agency and sustainable power for the community. This level of engagement with clients, sitting side-by-side and leaning in with creative solutions, becomes the differentiator among consulting firms.

As you'll read in this issue, the ability to offer this kind of creativity and client service comes from collaboration and diversity of thought. In our industry, we have multiple opportunities to champion diverse viewpoints, including recruiting, retention, mentorship, and management of project teams. Building advocacy for diverse thought through, for instance, small and disadvantaged businesses brings value to the project solutions and the client's overall outcomes. Today more than ever, our clients and the communities we serve are looking for more than good-faith efforts. They are looking for principled leadership and results. We must be on the side of the value that diversity brings.

I am excited to serve Dewberry in my director role and share with its leadership the lessons I have learned about value and diversity, and the ultimate benefits they bring to Dewberry's already exceptional client relationships.

LARRY L. MELTON, JR., PMP
Member, Dewberry Board of Directors

DIMENSIONS® FUNDING REPORT

IN MEMORIUM

Vice Chairman of the Board Major General(R) Merdith W. B. "Bo" Temple, PE, PMP, passed away peacefully in early November 2020. He had served on our board of directors since 2013 and was promoted to vice chairman in 2019. He is remembered for his strong leadership and commitment to high ethical values.

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IN THIS REPORT

ON THE COVER
Maple Avenue Wastewater Treatment Plant Expansion; Halifax County, VA

CREATING SAFE COMMUNITIES

FEMA MITIGATION REIMBURSEMENT

by Jane Frantz, AICP, PMP, CFM
Vice President

Although the first legislative act of federal disaster relief in the U.S. dates as far back as 1803, the modern era of post-disaster funding can be traced to the Disaster Relief Act of 1974 and its expansion through the Stafford Act of 1988. The Federal Emergency Management Agency (FEMA), established in 1979, coordinates much of the federal government's natural disaster mitigation, preparedness, and response funding. FEMA's mission is simple yet complex: helping people before, during, and after disasters.

MINIMIZING RISK: FEMA GRANT PROGRAMS

While FEMA has a high-profile role in assisting communities following both natural and manmade disasters, the agency has long recognized that hazard mitigation is vital to breaking the cycle of recurring damage and reconstruction, and reducing long-term risk to people and property. There are currently four primary sources of FEMA funding for hazard mitigation projects: the Hazard Mitigation Grant Program (HMGP), the Building Resilient Infrastructure and Communities (BRIC) program, the Flood Mitigation Assistance program, and the Public Assistance (PA) Hazard Mitigation (Stafford Act Section 406) program.

Post-disaster HMGP resources support hazard mitigation measures that reduce future losses by minimizing vulnerability and promoting community safety and vitality, with a goal of creating resilient communities that are less reliant on external financial assistance. Our experience with this program dates to its establishment 32 years ago and encompasses all types of projects, from hazard mitigation plans and large-scale community flood protection to safe rooms and earthquake retrofits. Our knowledge of the benefit-cost analysis (BCA) process, gained in part from having managed FEMA's BCA helpline for nine years, has been particularly important in helping clients overcome what is often a stumbling block in preparing applications.

BRIC is now replacing FEMA's Pre-Disaster Mitigation (PDM) Grant Program, which had originally been authorized by the Stafford Act. This program is intended to support states, tribes, territories, and local communities in undertaking risk-reducing mitigation projects with a focus on infrastructure that, if damaged, might have a large-scale community impact. BRIC emphasizes nature-based resilience measures and protecting community lifelines and assets. We have been assisting FEMA with policy and outreach on this new funding source, with the first application cycle now open.

FEMA's Public Assistance program also has a hazard mitigation component. Often PA hazard mitigation support, which can only be used on damaged portions of the facility, is combined with HMGP funds that can be used on the non-damaged portions of the facility.

HELPING COMMUNITIES NATIONWIDE

Through the decades, we have assisted state and local governments from coast to coast with hundreds of mitigation projects funded through HMGP and the PDM program (now transitioning to BRIC), as well as through FEMA's post-disaster public assistance grants. Examples include:

- **Apple Branch Flood Mitigation:** We assisted the City of Danville with a PDM grant application that included project scoping for stormwater management measures to address recurrent flooding of roadways and businesses in the downtown area.
- **Mexico Beach, Florida:** Following the devastation of Hurricane Michael in 2018, we worked closely with the City of Mexico Beach to develop cost-effective mitigation strategies to minimize future damage to municipal infrastructure under FEMA's Public Assistance grant program.
- **Wakulla County, Florida:** The county's Mashes Sands Fishing Pier, a popular recreational spot, had failed multiple times due to storm damage in recent years. FEMA hazard mitigation funding through the Public Assistance grant program has enabled the county to replace the vulnerable timber pier with a new concrete structure.
- **California Wildfires:** We assisted the California Office of Emergency Services with FEMA Public Assistance Grant applications and hazard mitigation strategies following the devastating Camp Fire and Woolsey Fire events in Los Angeles and Ventura counties.
- **Hurricane Harvey:** We worked with 52 communities after Hurricane Harvey to identify nearly 400 potential mitigation projects, screen them for eligibility, and develop viable subapplications totaling more than $2 billion.




Hurricane Michael caused extensive damage to the city of Mexico Beach, Florida, in 2018. FEMA's Public Assistance grant program supported the development of cost-effective mitigation strategies to minimize damage from future storms.

UNDERSTANDING FEDERAL FUNDING OPPORTUNITIES

by Caroline Whitehead
Federal Analyst

In recent years, the federal government has created an increasing number of grant programs, tax credits, and low-interest loan opportunities to assist communities and individuals. Several programs focus on increasing the resilience of our nation's economy and infrastructure while others focus on recovery from manmade and natural disasters and, recently, the pandemic.

For example:

- Congress has passed four supplemental appropriation bills (as of this publication) related to COVID-19 totaling more than $2.2 trillion. Much of the funding was directed at pandemic response, providing paychecks to individuals, grants to small businesses to stay afloat, and other targeted measures to soften the economic downturn.
- In response to flood, volcano, oil spill, and hurricane damage over the last 20 years, the federal government has distributed hundreds of billions of dollars in supplemental appropriations to fund the Federal Emergency Management Agency's (FEMA) Disaster Relief Funding. Three of the past six years have seen the highest federal spending on disaster relief on record. Over the last 40 years, the total cost of weather and climate disasters damages has exceeded $1.79 trillion.
- The American Recovery and Reinvestment Act of 2009 authorized $840 billion to stimulate the economy, create and save jobs, supplement safety net programs, and invest in our nation's infrastructure over five years.

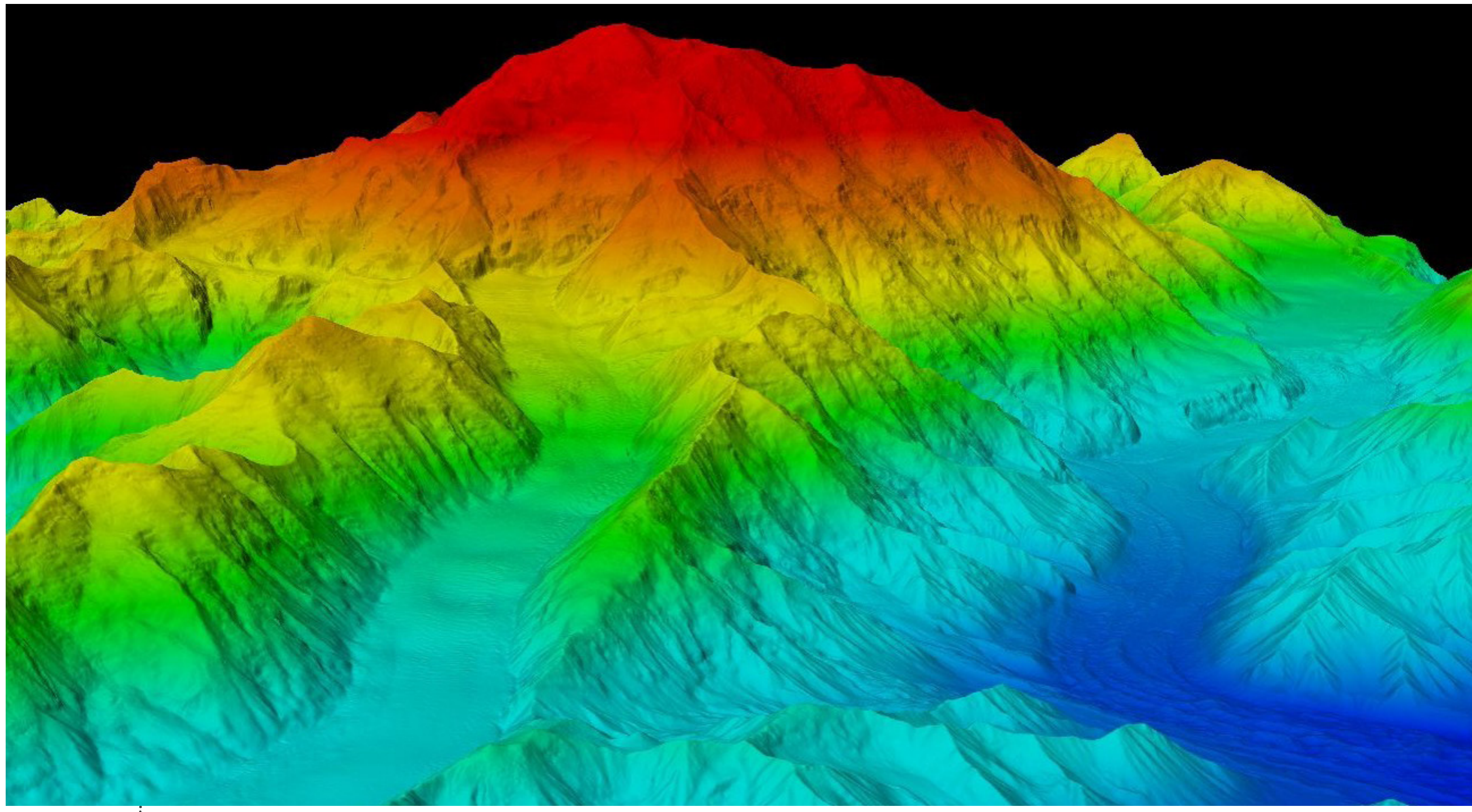
While these funds are often provided directly to state and local governments, individuals, non-governmental organizations, and private industries, a large portion of funds are administered by federal agency programs. FEMA is the primary agency focused on disaster response, for example, but many other agencies play a significant role in providing support. These include the U.S. Department of Housing and Urban Development (HUD), the Environmental Protection Agency (EPA), the Small Business Administration, the U.S. Department of Agriculture, the U.S. Department of Transportation (DOT), the U.S. Army Corps of Engineers (USACE), the U.S. Department of Commerce (DOC), and the U.S. Department of Health and Human Services (HHS). Programs guided by these agencies may be funded through the regular budget process or through additional appropriations mandated by Congress.

TRACKING FUNDING SOURCES: LOOKING FOR THE RIGHT FIT

Identifying appropriate funding sources can be a complex process. Having supported the federal government and communities throughout the U.S. for decades, we have often assisted with the identification of grants and loans that align with our clients' needs. We closely track new funding mechanisms as programs are launched.

Examples of federal programs currently in place include:

- FEMA Disaster Relief Fund programs for hazard mitigation, preparedness, and resilience
- HHS coronavirus grants
- HUD Community Development Block Grants (CDBG), including for newer mitigation programs
- DOC Economic Development Administration disaster recovery and resilience grants
- Centers for Disease Control (CDC) state and local preparedness grants
- Federal Transit Administration Transit Infrastructure Grants
- EPA water infrastructure financing via Water Infrastructure Finance and Innovation Act (WIFIA), Clean Water State Revolving Fund (CWSRF), and Drinking Water State Revolving Fund (DWSRF) programs



Funding from several state and federal agencies has enabled Alaska to create an updated set of topographic maps for the entire state.

After Superstorm Sandy in 2012, the New Jersey Department of Environmental Protection received **$230 million** for HUD's Rebuild by Design initiative

We assisted the **State of Alaska** by coordinating with the U.S. Geological Survey and other federal agencies to meet its baseline topographic mapping needs

We aided the City of New Haven, Connecticut, with obtaining **$1.35 million** in hazard mitigation grant funds to repair ineffective and failing flood control structures

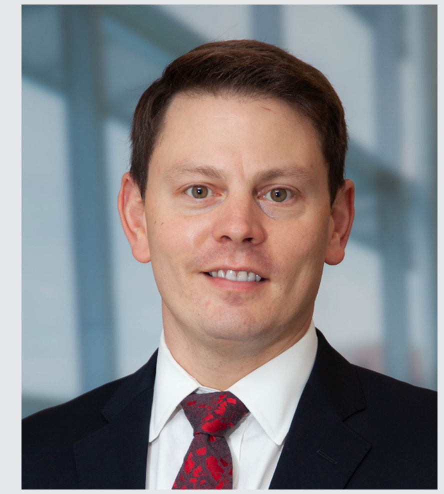
ENHANCING RECOVERY AND RESILIENCE

In recent years, we have assisted a number of state and local agencies with securing federal funding that resulted in major recovery and mitigation projects. After Superstorm Sandy in 2012, the New Jersey Department of Environmental Protection received $230 million for HUD's Rebuild by Design initiative after we partnered with the agency to provide a feasibility study and environmental impact statement to reduce storm surge and flood risk in the city of Hoboken and parts of Weehawken and Jersey City.

We aided the City of New Haven, Connecticut, with obtaining $1.35 million in hazard mitigation grant funds to repair ineffective and failing flood control structures. Another client, the Town of Jay in Santa Rosa County, Florida, received a $600,000 HUD Community Development Block Grant and a nearly $1.6 million USDA grant to replace antiquated water piping.

On a larger scale, we assisted the State of Alaska by coordinating with the U.S. Geological Survey and other federal agencies to meet its baseline topographic mapping needs over the past decade. This $66 million program included collaborative funding from several federal and state agencies. We provided the vision for how Alaska should be mapped, assistance with securing funding, and the technical and management expertise for getting the job done in a timely and cost-effective manner. The new maps meet National Map Accuracy Standards and are helping to manage natural resources and infrastructure, enable Alaskan communities to become more resilient to natural disasters, enhance economic development, and create safer conditions for pilots.

We are committed to helping our clients' programs cross the finish line by identifying appropriate federal funding opportunities whenever possible. We closely monitor developing federal programs to analyze how our clients can benefit.



THE CORONAVIRUS RELIEF FUND

HELPING COMMUNITIES RESPOND

by Jay Harper
Business Development Director

You would be hard pressed to find a community anywhere in the nation that has not been financially impacted by the COVID-19 pandemic. The Coronavirus Aid, Relief, and Economic Security (CARES) Act committed $2.2 trillion in federal spending to help strengthen the U.S. economy, including a $150 billion Coronavirus Relief Fund for direct assistance to state, local, territorial, and tribal governments and billions more for healthcare providers, higher education, corporations, and small businesses.

The urgency of enacting the CARES legislation, however, left little time to deconflict the various funding sources and establish the respective eligibility requirements. Various federal departments and agencies have been tasked with administering this funding, including FEMA, the U.S. Department of Health and Human Services, the Small Business Administration, the U.S. Treasury, and the U.S. Department of Education. We find that many communities are confused about or unaware of the various funding opportunities for COVID-related reimbursements. As a result, hundreds of billions of federal dollars remain unspent.

Our role is to help clients navigate the funding sources, with our assistance covered by the grants themselves in some cases. For example, disinfecting public buildings may be eligible for reimbursement under one funding stream, while decontamination of public transit or overtime for law enforcement personnel may be eligible expenses under a separate program. As we are likely to see more federal funds allocated in the future, this process may become even more complex. Our decades of work at the state and local level, coupled with our knowledge of government programs, including CARES Act funding, can be instrumental to assisting communities in their economic recovery.

The Coronavirus Aid, Relief, and Economic Security (CARES) Act committed

$2.2 TRILLION

in federal spending to help strengthen the U.S. economy

BRINGING STATE FUNDING BACK TO COMMUNITIES

PROTECTING OUR WATER RESOURCES

by Cliff Wilson, PE
Vice President

As in many states across the U.S., communities throughout Florida are challenged by water management issues, including meeting potable water demand while protecting our natural resources. Florida's Clean Water State Revolving Fund (CWSRF) is among the important programs that support communities as they seek to plan, design, and build or upgrade wastewater, stormwater, and non-point source pollution prevention projects. Since its inception in 1989, the program has awarded approximately $4 billion in loan funds for hundreds of projects.

IMPROVING WATER QUALITY

In the Panhandle area of Florida, the CWSRF has been a critical source of funding for many municipal projects. The City of Freeport, for example, recently finalized a loan agreement for $185,000 for a wastewater force main extension project, with half of the loan requiring no repayment. The project will extend the force main along the US-331 corridor to allow the expansion of the collection system into areas bordering the Choctawhatchee Bay that are currently on septic tanks. Removing these tanks will improve the water quality of the bay.

CWSRF has awarded

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in loan funds for hundreds of projects

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for **City of Freeport** wastewater force main extension project – **½ of the loan** requires no repayment

BUILDING THE ECONOMY

Florida's Rural Infrastructure Fund (RIF) is another important resource for communities looking to move forward with infrastructure projects that will encourage job creation, capital investment, and rural economic growth and diversity. For Calhoun County's Catalyst Site, an industrial park planned to attract business and industry and promote job growth, RIF grant funding was instrumental in supporting water, sewer, and stormwater improvements to increase the park's marketability.

INNOVATIVE PARTNERSHIPS

Another project that will help enhance water quality and water conservation in the Florida Panhandle is the North Bay Wastewater Reuse project. This forward-thinking initiative involves the design, permitting, and construction of approximately six miles of reuse line from Bay County Utilities' North Bay Wastewater Treatment Facility to Gulf Power's Lansing Smith Power Plant in Panama City. The connection will enable Gulf Power to use up to five million gallons of reclaimed, treated wastewater per day as cooling water for its natural gas generating unit.

The project will result in improved water quality in the St. Andrew Bay estuary, reduce nutrient loading, and enable Bay County's North Bay plant to convert to a zero-discharge operation. The Smith Power Plant will benefit by transitioning from the use of corrosive North Bay salt water to the treated effluent for its cooling towers, reducing maintenance and operation costs. Considered a win-win water reclamation project that will benefit the region for many years, the public-private venture has been funded in part by a $1 million grant from Florida's Department of Environmental Protection and $500,000 from the Northwest Florida Water Management District.

The public-private North Bay Wastewater Reuse venture has been funded in part by a **$1 million grant** from Florida's Department of Environmental Protection and **$500,000** from the Northwest Florida Water Management District

CLOSING THE GAP

FINANCIAL PLANNING FOR TRANSPORTATION PROJECTS

by Matt Satow, PE
Vice President

Many of our public-sector clients face the challenge of delivering large transportation projects identified in their capital improvement programs or regional transportation plans with only partial funding secured to move forward. “Tolls or taxes” is a phrase financial advisors commonly use when asked how to close funding gaps on large transportation infrastructure projects and to a large extent, this is true.

Some agencies and regions are fortunate to have voter-approved sales tax measures that dedicate a portion of the local sales tax to funding transportation infrastructure. In California, the legislature approved a statewide gas tax that generates more than $5 billion annually for improving existing transportation infrastructure with a set-aside for funding new congestion relief projects as well. Enacted in 2017, this tax has started to reduce the backlog of deferred roadway maintenance and transportation infrastructure projects. However, this is only part of the solution to funding the state’s transportation needs. Whether we are talking about tolls or taxes, these dedicated revenues are usually not enough to fund the long list of transportation infrastructure projects needed to keep up with growth.

How can agencies close the gap between available funding and the actual cost to deliver these projects? One popular strategy is to pursue a federal grant under the Better Utilizing Investments to Leverage Development (BUILD) grant program, or the Infrastructure for Rebuilding America (INFRA) discretionary grant program. Both programs provided approximately $900 million each annually in grants toward transportation infrastructure. Although the authorization for both programs ended in 2020, there is growing optimism that Congress will reauthorize them or provide other infrastructure funding under a COVID-19 stimulus bill.

DEVELOPING A FINANCIAL PLAN

As with any federal grant program, the BUILD and INFRA programs were highly competitive. The 2020 INFRA program had more than 170 applications submitted nationwide requesting $8.3 billion in funding from the $960 million available under the current program authorization. To screen these applications, the U.S. Department of Transportation has teams of transportation experts, economists, and financial specialists review each application. One of the first things they assess is whether the agency has developed a solid financial plan for the project.

Recently, Dewberry assisted Stanislaus County, California, in developing its financial plan for the $800 million North County Corridor project, which will include more than 19 miles of new freeway and expressway. The financial plan identified project expenditures and the year of these expenditures, matching them against revenues and the timing of the revenues. The plan identified the funding gaps, and we worked collaboratively with the client and regional transportation agency to develop strategies to monetize long-term revenues such as yearly transportation sales tax revenue and developer impact fees so that the funding would be available in the year of the planned expenditure. We also developed strategies to position the project to compete for additional state and federal grant opportunities.

POSITIONING PROJECTS FOR FUNDING SUCCESS

Stanislaus County was successful in obtaining a $20 million grant under the 2018 BUILD program. Although the application was submitted in 2018, the county completed a significant amount of work to pre-position this project prior to the federal Notice of Funding Opportunity being issued.

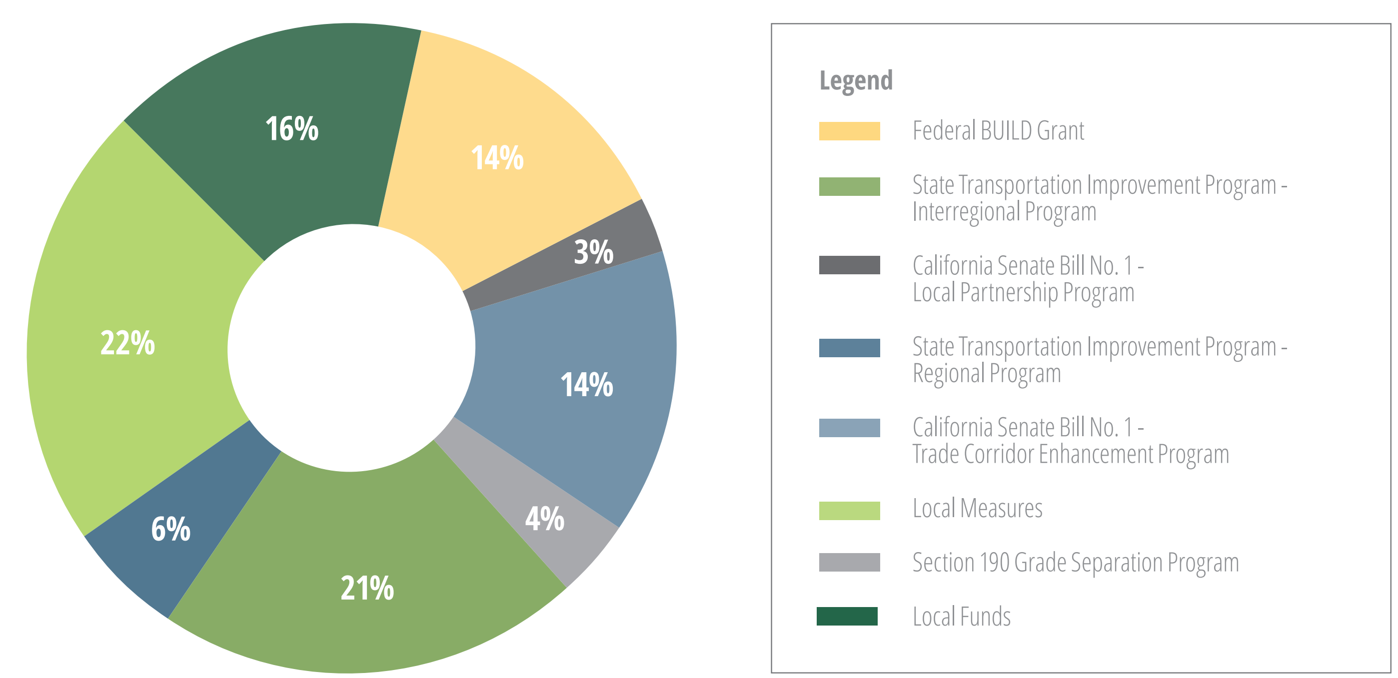
Long lead items such as freight and traffic studies and the economic benefits analysis were initiated months in advance of the funding opportunity announcement. These studies and data were used to help build strong support among project stakeholders, locally elected officials, congressional representatives, and regional partners. This was clearly a key part to the county’s success in obtaining a BUILD grant for the North County Corridor project.

PUTTING IT ALL TOGETHER

Whether pursuing a grant or financing, a solid financial plan is an essential part of demonstrating that a project is financially sound. Each project is different, and there are many other solutions and strategies that can be implemented, including project phasing, the use of public-private partnerships, bonding, or other financing mechanisms such as a Transportation Infrastructure and Innovation Act (TIFIA) Loan. These strategies are usually explored as part of the financial planning.

Whether an agency is looking for funding, financing, or some combination of both to close the funding gap on large transportation infrastructure projects, building a solid financial plan will help set the project up for success.

NORTH COUNTY CORRIDOR PROJECT SOURCE OF FUNDS



HELPING COMMUNITIES RECEIVE GRANT FUNDING AFTER DISASTER STRIKES

by Kelly Rosofsky, Staff Engineer, and James Heeren, PE, ENV SP, Senior Associate

After a disaster, it can be challenging for a community to navigate recovery funding from the federal government. The Federal Emergency Management Agency (FEMA) Public Assistance (PA) program and the U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant Disaster Recovery (CDBG-DR) program provide funding to help communities respond to and recover from disasters. The PA program reimburses state and local governments and certain types of nonprofit organizations for the cost of disaster-related debris removal, emergency protective measures to protect life and property, and permanent repair work to damaged or destroyed infrastructure. The CDBG-DR program can help similar applicants fund a range of recovery activities, especially in low-income areas. Though the grant application processes can be long and detailed, the benefits to a community receiving this assistance include local economic recovery support, restoration of damaged public infrastructure, and the opportunity to plan for and incorporate higher resilience.

HELPING COMMUNITIES NATIONWIDE

Many communities are not aware of the various resources and funding available after a disaster, or they lack up-to-date information on the latest allocations and programs. Experienced professionals can help local, county, state, and tribal and territorial governments secure the necessary funding before, during, and after a disaster. The process includes collecting and processing hundreds of financial and operational documents, including invoices, time records, contracts, permits, plans, and surveys; and organizing them to show federal compliance in FEMA-funded projects. Program knowledge helps a community maximize and retain their reimbursement funding.

CLEANING UP WATERWAYS IN NEW JERSEY AFTER SUPERSTORM SANDY

New Jersey was severely impacted by Superstorm Sandy in October 2012 and is still recovering today. Our team has been working with the New Jersey Department of Transportation (NJDOT), and previously the New Jersey Department of Environmental Protection (NJDEP), since 2012 to maximize New Jersey's reimbursements. We managed and provided FEMA compliance services during the statewide waterway debris removal project. Waterlogged debris included boats, cars, and even houses impacting public health and safety in and around the state channels and bays. Our FEMA support led to more than $100 million in reimbursements for the debris removal effort.

Sediment shoaling occurred in navigation channels throughout the state. Following the debris removal process, the function of the channels had to be restored. With more than 100 damaged navigation channels, we assisted the NJDOT over several years, collecting documentation and analyzing program-eligible costs to help the NJDEP submit $15 million in project reimbursement to FEMA. Our team also performed more than 150 Environmental and Historic Preservation (EHP) field inspections to demonstrate federal regulation compliance as a standard component of each project and researched underwater debris prior to channel construction to identify any culturally significant artifacts that could be impacted. We have helped New Jersey locate and log more than 1,500 previously unknown submerged archaeological sites. Our efforts have included support for the NJDOT to develop seven FEMA PA First Appeals, and all seven were awarded in favor of the state.

REBUILDING IN NEW YORK

Superstorm Sandy caused more than $40 billion in damages in the state of New York, with thousands of homes damaged or destroyed. With funding from the CDBG-DR program, we supported the Mayor's Office of Housing Recovery Operations and the New York City Economic Development Corporation (NYCEDC) and numerous other agencies with the ambitious "Build It Back" initiative. This program has assisted homeowners, landlords, and tenants with assessing storm damage to their properties, estimating rehabilitation costs, and reviewing environmental and historic preservation issues in order to qualify for federal funds. Today, nearly 9,000 homes are fully repaired and many more have been retrofitted to be more resilient to future storms.

Other major recovery programs in New York include the Red Hook Integrated Flood Protection System in Brooklyn, where storm surge flooding impacted thousands of residences and businesses. Directed by the NYCEDC and the Mayor's Office of Recovery and Resiliency, this project identified measures to reduce flood risks in the community and involved a feasibility study, conceptual design alternatives, and development of the preferred alternative for an integrated flood protection system, including floodwalls and raised roadways. Now in design, the project has received funding from FEMA's Hazard Mitigation Grant Program.

HUD's CDBG-DR funds have also supported the New York Governor's Office of Storm Recovery (GOSR) as the office works to support individuals and small businesses impacted by storm events, including Superstorm Sandy. Our work has included assessing the various technological tools and systems that GOSR has used to manage and monitor grant opportunities and applications. We are also providing policy, administration, and technology-based services to assist GOSR in analyzing all grant awards to date; identifying applications that do not meet CDBG-DR eligibility criteria; and providing overall database and records management, reporting, and case management.

Every community has a right to recover program costs and rebuild more resilient communities. Navigating the complex world of grant funding in the aftermath of a disaster can be challenging, and we are proud to assist communities in their recovery, including securing much-needed funds from the federal government.

POST SUPERSTORM SANDY

$40 BILLION
in damages in the state of New York

Today, nearly
9,000 HOMES
are fully repaired and many more have been retrofitted to be more resilient to future storms

A COMMUNITY-BASED PRACTICE

DELIVERING CREATIVE FUNDING SOLUTIONS FOR CRITICAL INFRASTRUCTURE

by Leslie Barksdale, PE
Project Engineer

Dewberry takes pride in serving as a community-based practice. We regularly collaborate with our clients to develop funding strategies and packages to bring their projects to fruition. In fact, the greatest challenge in executing an infrastructure project is often not the engineering but identifying and securing the funding sources.

This requires being knowledgeable about potential funding sources at all levels of government, as well as anticipating the probable infusion of additional funding from special programs such as a federal stimulus. We must be creative in exhibiting our clients' needs to stand out among competing applicants and elevate their potential for funding eligibility. For example, our southern Virginia practice has assisted regional clients in sourcing more than $100 million in grants and low-interest loans for critical infrastructure projects over the past ten years.

POSITIONING AND MAXIMIZING FUNDING POTENTIAL

Most federal infrastructure dollars are funneled through existing federal and state programs. In Virginia, this includes programs administered by four federal agencies and five state agencies, including the U.S. Department of Agriculture (USDA) Rural Development, the Economic Development Administration (EDA), Virginia Department of Environmental Quality (DEQ), and the Virginia Department of Transportation (VDOT).

Strategically positioning clients for funding opportunities is paramount, particularly for projects that support economic development. Ensuring projects are "shovel ready," leveraging other priority public needs, and using one funding source to fulfill a funding match requirement of another are among the strategies often used to maximize grant and low-interest loan funding.

RECENT SUCCESS STORIES

Several recent projects illustrate the success of assembling a sound funding strategy to implement projects in communities:

- **Smith River Interceptor Rehabilitation – City of Martinsville:** Project phasing and alternative delivery allowed for a controlled timeline to rehabilitate this deteriorated 6.2-mile large-diameter sewer interceptor. By dividing the project into four contracts, we were able to first obtain a zero percent interest loan through the Virginia DEQ Revolving Loan Fund to move the project forward. We then identified a $1-million EDA grant, tied to an industrial beneficiary, to offset some of the debt obligation.
- **Southern Virginia Megasite at Berry Hill—Danville-Pittsylvania Regional Industrial Facility Authority:** Our engineering and architectural practice routinely focuses on supporting clients with projects that create economic development opportunities. The development of the 3,528-acre Southern Virginia Megasite at Berry Hill, with full infrastructure and pad-ready sites, is a prominent example in the Southeast. Suitable for original equipment manufacturer operations and other large advanced industrial tenants, the megasite is the result of a unique collaboration among multiple jurisdictions across state lines. From early master planning to today, we continue to work closely with our client, bringing more than $100 million of investment for infrastructure development to help make this site Virginia's largest certified megasite.
- **Maple Avenue Wastewater Treatment Plant (WWTP) Expansion—Halifax County Service Authority (HCSA):** Improvements to this facility allowed decommissioning of a small WWTP and increase in the Maple Avenue WWTP capacity to support the region as well as accommodate future growth, and provide an effluent reclamation and reuse system to support a nearby power generating facility. A well-planned funding strategy using EDA, Environmental Protection Agency State and Tribal Assistance Grants, Virginia Tobacco Commission, and USDA Rural Development programs resulted in $7.5 million in grant and $6 million in low-interest loan funding to support regionalization and efficient processes for HCSA.

The Southern Virginia Megasite at Berry Hill is the state's largest certified megasite with rail, natural gas, broadband, power, water, sewer, permitting, and zoning in place.

BOND REFERENDA
A CHALLENGING, BUT WINNABLE PROPOSITION

by Douglas Pfeiffer, AIA
Principal

At the local government level, capital improvement and replacement projects often rely on bond financing. While similar to a loan, a bond referendum is unique in that voters are asked, in the form of a ballot measure, to secure bond financing with the taxing power of the local government. For decades, this financial tool has helped fund the construction of schools, parks, police and fire stations, and other community facilities as well as vital infrastructure projects.

Since the 2008 recession, with voters understandably more cautious about government spending, capital projects have been subjected to increased scrutiny. Many of our public clients opted for smaller-scale facility improvements over more ambitious capital construction projects. Nationwide, there was a reduction in the frequency and value of bond referenda, with governments relying on reserves and operating budgets to fund basic maintenance needs.

Recognizing that this cost-cutting shift is not sustainable for the long term, many public agencies have now begun to focus on the importance of keeping the public informed about proposed capital projects, and carefully building support for new bond referenda with a diligent, step-by-step approach that highlights both need and benefit.

VALIDATING THE PROJECT: FACILITY CONDITION ASSESSMENTS

We are currently serving two park districts that plan to build new community facilities and catch up on deferred maintenance projects. In both cases, facility condition assessments have been critical first steps in educating voters and gaining public trust. These assessments have provided vital context, evaluating a facility's purpose and current functionality and detailing building systems, equipment, and space conditions along with maintenance budgets and replacement schedules. A secondary assessment serves as a qualitative study that documents the ways in which a building either serves or detracts from its purpose. We also investigate current and future space needs to serve the client's mission.

Through multiple layers of community engagement, we gain an understanding of the stakeholders, including their interests and concerns. Together with our clients, we ask the public to become active participants in the project planning, long before they are asked to cast a vote on the fate of the funding.

TESTING ENGAGEMENT: PRESENTING THE OPTIONS TO VOTERS

Once the assessments have been assembled and reviewed, we often find a common theme. For example, a study might reveal a series of unavoidable capital expenses related to the facility life cycle—from paving and roofing to the need to replace obsolete, energy-draining HVAC equipment. Another study might expose the operational restrictions of working in an outdated facility, such as inefficiencies in staffing, a lack of security, or limitations to customer service. Relying on these detailed assessments, we can often make a connection between facility improvements, including renovation, expansion, and new construction projects, and clear benefits to the taxpayers, including long-term savings and improved services.

Voters in the Broadview Public Library District in Illinois approved a referendum to renovate and expand its aging building. The modernization was completed this year, providing ADA-accessibility, advanced technology, study and meeting rooms, and a dedicated teen space.

COMMUNICATING THE VISION

Involving the public early-on in the planning for capital projects has proven to be an important step in building advocacy and support for a bond referendum. We work side-by-side with our government clients throughout this process and engage various stakeholder groups who may also help share information and serve as project advocates. In addition to facility assessments and design services, outreach tools to help involve and educate the public include:

- Public meetings, workshops, and design charrettes
- Assessment reports that include executive summaries, charts, comparisons, and cost projections that explain findings in a clear and easy-to-read format
- Surveys
- Websites and social media
- Site tours and visits to similar facilities in other jurisdictions
- 3D animated fly-throughs
- Renderings, exhibits, fact sheets, and FAQs

We recognize the challenges our government clients face in securing funding for capital projects in a tenuous financial climate and with voters who seek to keep spending in check. By documenting needs through careful assessments, involving the community early-on, creating multifaceted information and outreach programs, and working hard to secure the public's trust, we can continue to rely on bond referenda as an important financial tool. Most importantly, we can build and maintain facilities and infrastructure that reflect the judicious use of public funds and demonstrate civic pride and support.

GRANT WRITING FOR PRIVATE AND PUBLIC CLIENTS

by Justin Ford, PE
Senior Associate

It's a common conundrum: plenty of work and not enough funding. Potential projects abound in communities across the U.S.—projects to help beautify a neighborhood, repair an aging roadway, upgrade an antiquated sewer system, or build a new boat ramp to attract visitors to an economically struggling community. Each of these projects comes with a price tag, some more hefty than others. Often, grants can be a solution. While funding is possible through a variety of avenues, grants do not equate to debt, which can be appealing for small communities, especially those looking to attract more growth.

Addressing grant eligibility requirements involves creativity and strategic thinking, and the grant submission can often be challenging. We help clients navigate this process, identifying and often combining funding sources and assisting with required documents and a comprehensive project justification. As an example, for projects in rural north Florida, there are more than 50 grant opportunities available to communities from federal and state programs, including:

- Small County Outreach Program (SCOP)
- Small County Road Assistance Program (SCRAP)
- County Incentive Grant Program (CIGP), Community Development Block Grant (CDBG)
- Florida Recreation Development Assistance Program (FRDAP)

MOVING PROJECTS FORWARD

As a client manager, project manager, and practicing engineer in Florida, I find it very rewarding to assist clients in securing needed funding, including grants, to deliver critically important infrastructure projects. A few recent highlights include assisting Wakulla County with a project to remove residential septic tanks and expand its central sewer system. This effort, which has helped the county improve service and protect its natural resources, received grant funding from the Northwest Florida Management District and the Florida Department of Environmental Protection.

In Calhoun County, following the devastation caused by Hurricane Michael in 2018, we helped obtain FEMA hazard mitigation funding to address damage to several of the county's commercial corridors by "hardening" the roadways to make them more resilient to flooding hazards. In Gadsden County, we assisted in securing funding from the Florida Division of Emergency Management to replace the Hutchinson Ferry Road Bridge, which washed out during a storm in the summer of 2019. All of these projects represent much-needed improvements that enhance safety and protect rural economies.

ENGINEERING EXPERTISE: DELIVERING A FUNDING PLAN

Securing project funding is an all-important first step. From that point forward, project design and management—including adhering to the often complex requirements of the funding agencies—requires sound engineering, a deep understanding of permitting requirements, knowledge of funding agency requirements including post-project audits, and attention to detail from start to finish. Being able to deliver a successful project often requires much more than traditional engineering skills, especially for our rural and smaller public-sector clients.

Supported by state and regional grant funding, Wakulla County improved its central sewer system and removed residential septic tanks. The multi-phase project helps to protect the freshwater Wakulla Springs and critical ecosystems from water quality hazards related to septic system nutrient loading.

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FINANCIAL BONDS

MOVING FORWARD WITH RESILIENCE PROJECTS

by Jessica Fleck
Planner

Bonds are an important source of funding for communities seeking to pursue infrastructure resilience and adaptation projects. As municipalities confront the increasing threats and rising costs of climate change, bond issuances present an option to carry out large-scale capital projects aimed at risk reduction. Proactive planning for a resilience-focused bond allows communities to position themselves for an issuance during the policy window following a disaster, or ideally, before the disaster even occurs.

There are a variety of bond options available via the capital markets, including:

Social impact bonds, which can be used to finance green infrastructure solutions, with investors assuming the risk associated with the project's performance

Green bonds, issued to specifically fund projects that have a positive environmental impact

Resilience bonds, a relatively new financial instrument, which create incentives for cities to invest in risk reduction projects with a resilience rebate that converts avoided losses into a revenue stream

While these financial instruments offer options to municipalities, given a strong bond rating, communities may still issue a general obligation bond that simply has a resilience focus. We assist clients in reviewing the many options available, including newer, more complex mechanisms that may be worth considering. We also help respond to climate readiness surveys from bond rating agencies, and collaborate with clients with asset management services to evaluate vulnerable assets and develop resilience approaches that will maximize use of the funds once they have been raised.