

he Florida League of Cities' Center for Municipal Research (CMR) connects you with the latest local government data and statistics. The Center provides Florida's city officials with the municipal data resources needed to effectively lead their local governments. The Center also offers Florida's government research institutes opportunities to collaborate with municipal government practitioners across the state.

The cornerstone of the Center's research is the annual CityStats survey, which collects data on municipal operations, budgets, policies and services. The CityStats survey forms the basis for the State of the Cities report and the online Find A Peer City database tool.

Through the Center's Partners in Municipal Research program, a regular research column is published in the League's Quality Cities magazine featuring articles from our research institute partners. The following is a compilation of the articles featured in 2019.



PROBLEM SOLVING

Partners in Municipal Research

Strengthening the link between academics and administrators

by Chris L. Holley II Florida League of Cities

lorida is home to some of the top universities in the country.

From Pensacola and Miami to Jacksonville and Fort Myers, each institution of higher learning is growing its expertise through research in a niche policy or issue facing municipalities.

The Florida League of Cities Partners in Municipal Research Program develops and strengthens partnerships between Florida's public policy researchers and municipal governments, bridging the gap between academics and public policymakers and administrators. The program has 43 participating researchers at 12 research institutes across the state, and it is growing. The Partners in Municipal Research Program was created through the League's Center for Municipal Research & Innovation.

These universities are thinking through the municipal challenges of today and the future. Areas of research include cybersecurity, social and environmental resilience, disaster preparedness and response, strategic planning and performance measurement, water quality and disruptive technologies.

Academics are hungry for access to data and collaborations with local governments so they can assist with solving these challenges. Connecting researchers with data and test beds will lead to a greater understanding of and valid responses to these issues facing municipal governments statewide. The researchers' drive to create positive change through research is identical to the determination and passion municipal leaders have to serve their communities.

In a time when we are more connected than ever, this program can serve as the conduit between the needs of a researcher and a municipality. Today, the university that a city connects with can be across the state or down the street. Municipalities can work to build those bridges and make those connections. The CMRI can help.

Chris L. Holley II is the manager of research and innovation for the Florida League of Cities. QC

HOW THE CMRI CAN HELP YOU

Through the Center for Municipal Research & Innovation, Florida's city officials have access to municipal resources and data, programs and publications. The center holds two annual research symposiums on topical issues, such as recycling, disruptive technologies, Zika and medical marijuana; publishes research articles in *Quality Cities* and a quarterly electronic newsletter; and conducts the annual CityStats survey and a variety of MiniSurveys.

STATE OF THE CITIES: HOW DOES YOUR CITY COMPARE?

The annual CMRI **State of the Cities** report is now available. This report is a snapshot of the current state of Florida cities and covers municipal revenues, employment, governance, services and public safety.

The results are based on the annual CityStats survey and Mini-Survey series, as well as data collected from various research institutes across the state and nation.

Just like the residents that call Florida home, no two cities are alike. It's what makes them beautiful: being unique. Businesses, families, traditions and memories created within our cities become the fabric of their character, charm and individuality.

Visit floridaleagueofcities.com/research to read the recently published State of the Cities report and learn more about the CMRI. Contact **FLC Research Analyst Liane Giroux** at Igiroux@flcities.com for more information.



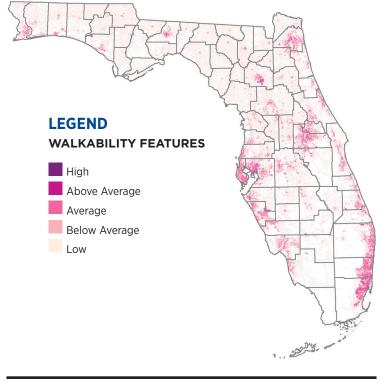
alking has been "the forgotten transportation" as automobiles and other modes of transit have encroached upon humans' simplest mobility. But walking is making a comeback as people recognize the importance of physical activity to their health. To emphasize the value of walking, the surgeon general has issued a Call to Action to address goals to make walking a national priority.

The Florida Department of Health, Division of Community Health Promotion, recently commissioned a statewide assessment to quantify environmental factors generally associated with walkability. Local planners and designers can use the results to help

increase walkability in their communities.

Data from the project, funded through a grant from the **Centers for Disease Control and Prevention**, is available to the public in two formats: an online interactive map that makes it easy to view communities (with access to Google Street View to quickly observe the natural landscape); and for planners, data in GIS format that is available to download for use on desktop computers.

Most walkability studies are performed at a census tract scale. However, the irregular sizes and shapes of the land make it difficult to compare areas. The large tracts can mask data patterns and give



the false impression that the walkability is equally consistent across the landscape. To avoid these problems, this walkability project uses a 1-kilometer grid scale to provide higher resolution and geographic uniformity.

Data often considered important to walkability studies include sidewalks, lighting, cleanliness and other factors related to human comfort. However, these data are not available for all counties and could not be included in this walkability formula. The final data selections for the formula are density measures for population, road intersections, commercial destinations, and parks and trails.

The scope of this project is to assess walkability and develop tangible statewide maps that are of value to local planners for increasing walk motivation in their communities. Local officials can also use the information to design environmental changes such as lighting, sidewalks or greenways to increase walking motivation.

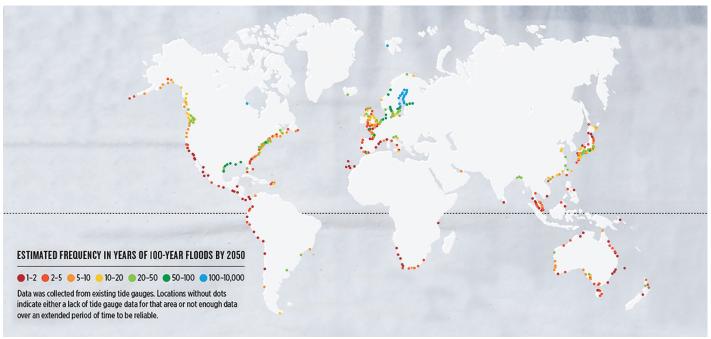
This project gathers baseline statewide data considered to be related to walkability. The research could be extended in the future to include more detailed information through localized GIS data and perceptions gathered from local walkers. The combination of these datasets will help planners and others understand the environmental

details and how areas are viewed by the community, and they will help ensure a more realistic view of neighborhoods.

Georgianna Strode is an application developer at the Florida Resources and Environmental Analysis Center of Florida State University. If you have questions or ideas for your city, contact her at *gstrode@fsu.edu* or (850) 644-5886, or visit *freac.fsu.edu*. QC

RESOURCES

Walkability Report: fla.st/2GZjgeS Online map: hermes.freac.fsu.edu/che/walk GIS Data: usng-gis.org/walkability.html



CLIMATE CHANGE

Source: Lauren Waters, University of Central Florida.

Challenge of the Century

Rapid and drastic adaptation is required to maintain our quality of life

by Sergio Alvarez University of Central Florida

rapidly growing population concentrated in low-lying coastal urban centers makes Florida and residents' way of life very susceptible to the impacts of climate change.

Climate change is already impacting the state by producing more powerful hurricanes, driving increases in sea levels and increasing the frequency and severity of harmful algae blooms. Climate change also has the potential to increase risks related to water- and vector-borne diseases and pathogens.

These changes are projected to continue and require rapid and drastic adaptation if cities intend to maintain a reasonable quality of life for current and future generations of Floridians. At the University of Central Florida's National Center for Integrated Coastal Research (UCF Coastal), these impacts and adaptation strategies are referred to as the coastal challenges of the 21st century.

UCF Coastal is a group of researchers from multiple disciplines studying these coastal challenges. The research objective is to help identify solutions that address specific challenges. As part of this mission, research will offer an interdisciplinary Ph.D. program on sustainable coastal systems.

This mission also requires building partnerships with the communities on the frontlines of climate change in Florida. These partnerships can center around field research and sampling, student internships and formation of research teams composed of city staff and UCF scientists, among others. The overarching objective is to provide Florida's cities with additional expertise and resources to tackle the coastal challenges they are facing and will face.

Some of the challenges UCF Coastal is studying are detailed below.

CHALLENGE 1: SEA LEVEL RISE

SLR poses serious risks to coastal areas throughout the globe. The most obvious impact of SLR will be an increased number of flooding events, but other impacts include saltwater intrusion, degradation of wetlands and beach erosion. In addition, coral bleaching is primarily caused by increased water temperatures, one of the drivers of SLR.

Florida is already feeling the environmental impacts of SLR in coral bleaching, displacement of mangroves and changes in marine species distribution. Impacts on livelihoods and local ecosystems are becoming more prevalent and are projected to escalate and accelerate. Miami Beach is perhaps the most visible bellwether of SLR impacts in the state, having already installed pumping systems in an attempt to mitigate annual "king" tide (sunny day) flooding events. King tides occur every year, but until recently they didn't result in flooded city streets.

CHALLENGE 2: HARMFUL ALGAE BLOOMS

Driven by multiple factors, all with a human origin, HABs are becoming a recurrent problem for many communities in Florida. Nutrient loads from stormwater runoff coupled with warmer surface waters in the ocean and in freshwater bodies such as Lake Okeechobee have created a favorable environment for these algae to grow out of control. While they are naturally occurring and

are normally present in trace amounts, these algae bloom when nutrients and sunlight are available and the water is warm enough.

There are several organisms causing HABs in Florida. Freshwater lakes with heavy nutrient pollution, such as Lake Okeechobee, are experiencing blooms of the cyanobacteria (blue-green algae) *microcystis* and *anabaena*, which produce dangerous toxins. *Karenia brevis*, which causes the Florida red tide, blooms offshore in the Gulf of Mexico and is brought to shore by wind and currents.

CHALLENGE 3: COASTAL PATHOGENS

Warmer water temperatures also provide suitable growth conditions for pathogens such as *vibrio spp.*, a diverse family of aquatic bacteria that include *vibrio cholerae* (the cause of cholera) and the flesh-eating *vibrio vulnificus*. In healthy individuals, more than one-quarter of vibrio infections result in death, but for individuals with immune disorders or liver disease, the fatality rate is upward of 90 percent.

Alarming recent findings demonstrate:

- >> A steady increase in the abundance of pathogenic vibrios over the past 50 years as a result of the warming trend in sea surface temperatures.
- The strong association between HABs and vibrio blooms, as the latter thrive when HABs are present.

In Florida, vibrio infections routinely occur as a result of shellfish consumption or while swimming in coastal waterways. The risk of infection is particularly high during clean-up and recovery work after hurricanes, as the bacteria are transported into the urban environment by storm surges.

Vibrios can also cause devastating losses in aquaculture by killing and thriving on shrimp, farmed fish and oysters. Besides the threat to human health and local economies, some vibrios are also endangering Florida's coastal ecosystems. *Vibrio*

corallilyticus is a major pathogen of coral polyps driving coral mortality in a process related to warming of the ocean, as the bacterium is harmless at lower temperatures.

CHALLENGE 4: HURRICANES

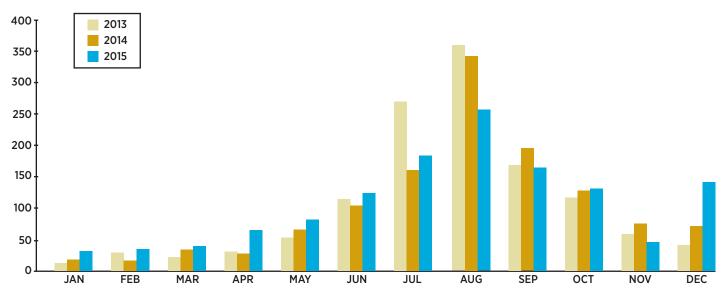
While projections of future changes in tropical cyclone activity are highly uncertain, there is a growing scientific consensus that in a warmer climate the number of extreme hurricane events (category 4 and 5 storms) will increase.

With 2017 and 2018 marking the most expensive Atlantic hurricane seasons in history, it is clear that such changes, along with higher sea levels, are having significant impacts. Hurricanes Harvey, Irma and Maria in 2017 and Florence and Michael in 2018 proved to be some of the most powerful hurricanes on record to hit the United States.

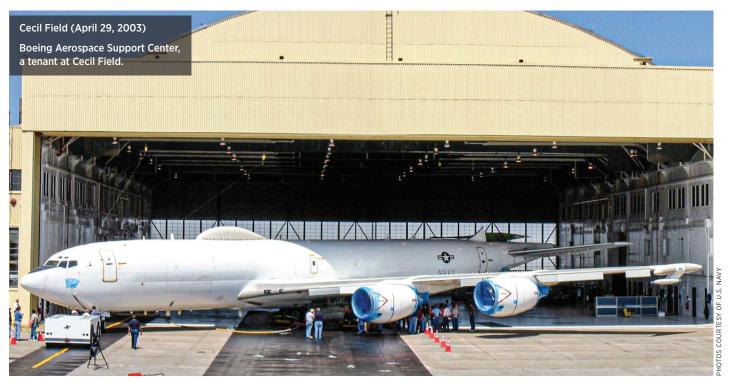
It is no coincidence that 2017 and 2018 also happened to be the warmest years on record for the world's oceans, as high temperatures on the surface of the ocean provide the fuel for tropical storm systems to strengthen. A warmer atmosphere can also hold more water, leading to more extreme precipitation events. Those events, when combined with higher sea levels and storm surges, can lead to a phenomenon referred to as compound flooding. These types of high-impact events have long been ignored in coastal planning and management.

Sergio Alvarez is assistant professor at the University of Central Florida. Contributors to this article include Salvador Almagro-Moreno, assistant professor, University of Central Florida; Jacopo Baggio, assistant professor, University of Central Florida; Christopher Emrich, associate professor, University of Central Florida; Kristy Lewis, assistant professor, University of Central Florida; Thomas Wahl, assistant professor, University of Central Florida; and Graham Worthy, professor, University of Central Florida.

MONTHLY REPORTED CASES OF U.S. VIBRIO-RELATED ILLNESSES WITH THE EXCEPTION OF CHOLERA (2013-2015)



Source: Sergio Alvarez, University of Central Florida. Data is from Centers for Disease Control and Prevention.



REDEVEL OPMENT

Converting Former Defense Communities

Transformations are happening in Florida and across the country

by Michael Touchton University of Miami and Amanda Ashley Boise State University ilitary bases in Florida are vibrant economic centers that anchor many communities and their regions. The roughly 100,000 active-duty and reserve personnel stationed on Florida bases generate tens of thousands of jobs and hundreds of millions of dollars in critical revenue for their surrounding communities.

The U.S. Department of Defense closed more than 350 U.S. military installations between 1989 and 2005, including 122 large military bases. The DoD's strategic decision to mothball these bases through the Pentagon's Base Realignment and Closure (BRAC) process has paralyzed communities due to the financial, environmental and political difficulties of redevelopment. Pragmatic communities openly questioned whether base conversion and recovery was possible or simply unattainable.

Converting closed military bases is a significant challenge facing many U.S. communities. The sum of the arrangements made through BRAC policies is one of the largest transfers of federal infrastructure, buildings and land to municipalities in recent U.S. history. Yet, transferred bases are often liabilities, not assets.

These facilities resemble 21st-century ghost towns that are disconnected from surrounding cities. They typically are in dire need of environmental remediation and demand a significant infusion of resources. The expectations and emotions around redevelopment are particularly profound as community members expect a solution that will replace the job and revenue losses accompanying base closures. The stakes surrounding defense conversion are high; whether and how redevelopment occurs can make or break American communities.

Florida has experienced these economic shocks as dozens of installations closed since 1988, including Homestead Air Reserve Base, Naval Air Station Cecil Field and Orlando Naval Training Center. Cities have partnered with community development associations, redevelopment agencies, counties, state government agencies, the federal government, private foundations, chambers of commerce and a host of private firms to debate different paths toward conversion.

They planned and negotiated new parks, housing developments, industrial centers, offices and some continued military use as part of their redevelopment strategies. However, the plans often face significant challenges due to market climate, environmental remediation, and project timing and readiness. Strong differences of opinion about ideal community outcomes and placemaking often compound these common issues. Many of these redevelopment projects are ongoing and have much work to be accomplished before they are complete.

Complex military redevelopment challenges require extensive resources and heightened attention to regulatory interaction across levels of government. Having broader sets of official redevelopment partners across the public, private and nonprofit landscape tends to result in more land-use outcomes oriented toward the public good. These include creating economic opportunities for the poor, creating mixed-income communities, building affordable housing and designing equitable green spaces and public areas.

Twenty-one bases remain open in Florida, including Eglin, MacDill, Patrick and Tyndall Air Force Bases; Jacksonville, Key West and Pensacola Naval Air Stations; Naval Station Mayport; and a variety of Army, Coast Guard and Marine bases. It is difficult to predict the futures of these economic engines; however, some closures seem inevitable given that the Pentagon routinely calls for additional BRAC rounds.

Local communities are not in complete control over many factors that influence defense conversion outcomes. The amount of environmental remediation necessary to prepare a site for conversion, the level of economic productivity in a community and a community's proximity to metropolitan areas are important but difficult to alter. Collaborative partnerships can build capacity around these issues and marshal resources, which help overcome some of these challenges.

WHAT CAN CITIES DO?

Cities and their partners can anticipate many of the challenges associated with defense conversion and seek outside assistance to achieve better outcomes through a diverse array of collaborative arrangements and partnerships.

Jobs that disappeared when bases close are unlikely to return, at least not as a direct result of redeveloping the bases. However, revenue can rebound, and defense conversion can benefit broad groups of stakeholders. Collaborative governance at scale, phased project planning, integration of isolated sites and equitably financed redevelopment can help to complete projects while also providing community benefits. Knowledge of the challenges that communities will face and early preparation will go far to making realistic conversion plans and achieving redevelopment goals.

Local and regional governments can prepare for base closures by identifying site assets and liabilities, selecting and securing public/private partnerships, financing project implementation using deliberative phasing, designing site use based on places' assets and liabilities, and engaging community stakeholders to ensure a transparent and collaborative development process.

Jacksonville followed this path by establishing the Cecil Field Development Commission immediately after the closure announcement for Naval Air Station Cecil Field in 1993. This commission was soon folded into the Jacksonville Economic Development Commission and, later, the city's Office of Economic Development. These agencies worked with multiple stakeholders to plan and attract tenants to the new Cecil Commerce Center. This included making big investments in infrastructure to attract high-tech and manufacturing companies. All of the former hangars on the base are leased, and more than 2,500 jobs from a diverse group of tenants contribute to the local economy.

Taking control of the redevelopment process lets local governments make the best of a bad situation and ultimately convert closed bases in the public interest. This is easier said than done, but strong redevelopment governance can salvage former bases and rebuild communities in Florida and around the country.

Michael Touchton, Ph.D., is assistant professor of political science at the University of Miami. Amanda Ashley, Ph.D., is associate professor of urban studies at Boise State University. They are the authors of Salvaging Community: How American Cities Rebuild Closed Military Bases. Available July 2019 from Cornell University Press. QC



PLANNING

Designing Cities for Birds

A new online evaluation tool is available to municipalities

by Mark Hostetler University of Florida

ften, conserving wildlife habitat is boiled down to conserving large, natural areas connected by corridors outside of metropolitan areas. City planners and developers may overlook forest fragments and tree canopies in urban areas as potential wildlife habitat. While avoiding fragmentation is important for some species, many species, such as birds, use forest fragments and tree canopies in residential areas as habitat.

However, which birds use habitat in cities throughout the year? Research data is scattered in various journals, and a synthesized list of bird species does not exist for the United States. Furthermore, there is not an easy design tool for city decision-makers to evaluate how different city and development designs affect bird habitat.

Jan-Michael Archer, a **student** at the **University of Florida**, and I conducted a systematic review of empirical studies on birds that occur in and around cities. The goals were:

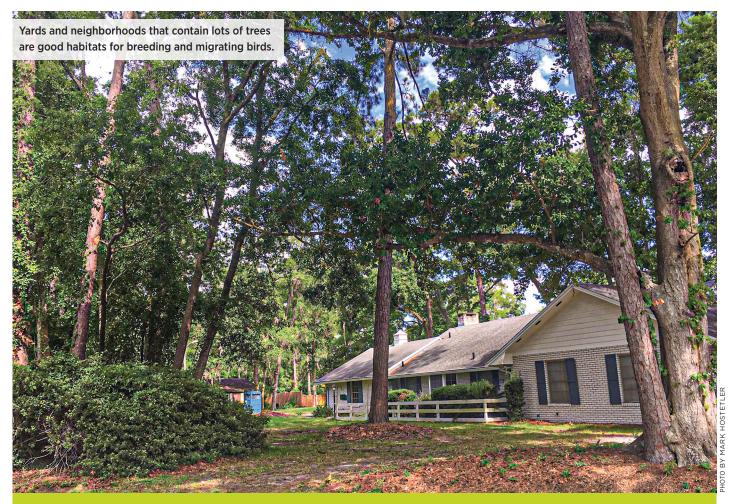
- To generate a list of species that potentially use urban forest fragments and trees in residential areas.
- » To create an online design tool so that city decisionmakers can evaluate different development scenarios for conserving bird habitat.

Research was reviewed on birds breeding in forest fragments and on migrating birds that use forest fragments as stopover sites along their migration routes. Other reviewed research included studies that surveyed birds during the breeding and migration seasons in residential areas that had tree canopy cover.

The review paper was published this year in the journal *Landscape* and *Urban Planning*. (Access the article at *bit.ly/2HKZ12O*.) More than 200 species of birds that could appear in and around cities during the breeding and migration season were found.

In particular, 116 migrating species were found in forest fragments and in residential areas during the fall and spring migration. Even for some species that primarily breed in large forested areas, these species were found in stopover sites consisting of small forest fragments and/or residential areas that had trees. For each species evaluated, we provide a checklist for whether they use forest fragments or trees in residential areas as breeding or stopover habitat.

From this synthesis, a free online design tool, "Building for Birds," was created. (The tool is available at *bit.ly/2LW1M6I*.) This evaluation tool allows decision-makers to manipulate amounts of forest fragments and tree canopy to determine the best designs for



HABITATS FOR MIGRATING BIRDS

- » Over 200 species of birds can use urban areas as habitat during breeding and migration seasons.
- Tree canopies in residential areas provide stopover habitat for migrating birds.
- » As stopover habitat for migrating birds, the amount and the size of conserved forest fragments are important variables.

conserving bird habitat. It is a simple tool. Users input the amount and sizes of forest fragments marked for conservation and the amount of tree canopy that will be conserved in residential areas. This tool was made possible through funding provided by the Renewable Resources Extension Act, National Institute of Food and Agriculture.

The online tool calculates scores for three habitat categories:

- » forest fragments as breeding habitat;
- **»** forest fragments as stopover habitat during migration;
- >> tree canopy in residential areas as breeding or stopover habitat.

Scoring is based on the amount (in acres) of conserved forest fragments and tree canopy cover kept intact for a particular development or city design. In some instances, the score is adjusted depending on the size of the forest fragments that are conserved.

For stopover studies, research indicated that a greater diversity of migrants use relatively larger forest fragments as stopover habitat. Thus, a development design that conserves a single 17-acre forest fragment provides better stopover habitat than a design that conserves 17 one-acre forest fragments.

It often takes a good deal of planning to design around individual trees in residential areas and to conserve small forest fragments in cities. This synthesized list of birds and the online design tool can demonstrate added value in conserving city trees in built areas and conserving city forest fragments. Conservation of trees and forest fragments in human-dominated landscapes can provide habitat for a variety of bird species.

Mark Hostetler is a professor in the Department of Wildlife Ecology and Conservation at the University of Florida. He can be reached at hostetm@ufl.edu. QC

RESOURCES

The free online design tool Building for Birds is available at bit.ly/2w6xVgY.

Fact sheets about conserving urban bird habitat are available at bit.ly/2IDhdff.



HOUSING INSTABILITY

Florida's Homeless Youth

Data shows rapid growth in the last 10 years

by Anne Ray University of Florida

lorida's affordable housing shortage and recent catastrophic hurricanes are hitting the state's young residents hard. In the 2017-2018 school year, 95,873 students in Florida schools were identified as homeless, which is nearly triple the number from 10 years ago. In the absence of safe affordable housing, more families and youth are turning to doubling up with family and friends and living in hotels and motels, homeless shelters and unsheltered locations such as parks, cars and campgrounds.

The **Shimberg Center for Housing Studies** at the **University of Florida** and **Miami Homes for All**, with support from JPMorgan Chase & Co., have teamed up to study two important questions:

- >> How does housing instability affect children's education in Florida?
- >> How can communities and schools address youth homelessness?

Data from Florida's schools and the state Department of Education reveal serious challenges:

- >> Living situations. In the 2017-18 school year, nearly 74,000 students doubled up with family and friends, making it the most common response to housing instability. Living in hotels and motels was the second most common arrangement (11,108 students), followed by shelters and transitional housing (8,203 students). Nearly 3,000 students were living in unsheltered locations.
- >> Unaccompanied youth. Most students experiencing homelessness live with their families, but 7,850 youth experiencing homelessness are unaccompanied by a parent or guardian.
- Disaster effects. Nearly 20,000 students experienced homelessness in the 2017-18 school year because of hurricanes. More than half were students who moved

from Puerto Rico to Florida after Hurricane Maria. The next year, more than 4,700 students were identified as homeless in Bay County alone following Hurricane Michael.

>>> Student performance. Students experiencing homelessness lag behind their housed peers. Homeless students' passing rates for English, math and science tests were lower than for other students, including housed lowincome students. High school graduation rates were also lower for homeless students, while rates of suspensions and chronic absences were higher.

Despite these challenges, there is good news.

First, school districts are training teachers, counselors and front-line

staff such as bus drivers and cafeteria workers to reach out to students who might lack stable housing. This improved outreach is part of the reason more students are being counted as homeless statewide. The students then are eligible for an array of supports such as immediate enrollment in school and transportation back to their school of origin.

Schools and local partners also support students by providing basic items such as clothing, hygiene kits, school supplies and sometimes "extras" such as financial assistance with extracurricular

MIAMI HOMES FOR ALL, INC. SHIMBERG CENTER FOR HOUSING STUDIES, UNIVERSITY OF FLORIDA



STUDENTS EXPERIENCING HOMELESSNESS IN FLORIDA:

UPDATES + SOLUTIONS

AUGUST 2019

JPMORGAN CHASE & CO.

activities and field trips. District homelessness liaisons coordinate this assistance and connect students and families to shelter and housing programs in the local community.

Second, solving child and youth homelessness is possible. We've identified a host of solutions focused on increasing funding for affordable housing, making local homelessness systems more youth- and family-friendly, and lifting legal barriers that prevent youth and families from securing safe, affordable housing.

Local collaborations across governments, nonprofits and the private sector are key to ensuring that all families, children and youth have permanent housing.

For more information, read *Students Experiencing Homelessness in Florida: Updates + Solutions.* This report and ad-

ditional resources are available at *shimberg.ufl.edu/children.html*.



Anne Ray is the manager of the Florida Housing Data Clearinghouse at the University of Florida's Shimberg Center for Housing Studies. If you have questions, contact Ray at aray@ufl.edu or Audrey Aradanas, youth program manager at Miami Homes for All, at audrey@miamihomesforall.org. QC

FLORIDA HOUSING DATA CLEARINGHOUSE

To learn more about the status of affordable housing in your city for families, youth and more, the Shimberg Center's Florida Housing Data Clearinghouse (*flhousingdata.shimberg.ufl.edu*) provides information on housing supply and demand for Florida's 412 municipalities and 67 counties. Datasets include:

- >> housing affordability statistics from the American Community Survey.
- >> household and population projections through 2040.
- >> sale prices and values for single-family homes, multifamily buildings and mobile homes.
- >> subsidized rental housing developments.
- >> housing needs of special populations: elders, people with disabilities, homeless individuals and families, and farmworkers.
- » income and rent limits for federal and state housing programs.
- » local profiles with the data needed to populate the housing element of the comprehensive plan.

Maps and interactive visualizations are available for key datasets.

The Florida Housing Data Clearinghouse is sponsored by the Shimberg Center and Florida Housing Finance Corporation. It produces a Statewide Rental Market Study (*shimberg.ufl.edu/publications/RMS_2019.pdf*) every three years with information about rental housing needs by county and demographic group.

The Shimberg Center provides technical assistance and custom data to local governments on request. Contact the center at (352) 273-1192 or fhdc-comments@shimberg.ufl.edu.

ARTWORK COURTESY OF EVIAN WHITE DE LEON FROM MIAMI HOMES FOR ALL