



## Florida League of Cities Center for Municipal Research Research Article Journal | 2020 Edition

The **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 2020.

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**FLORIDA LEAGUE OF CITIES CENTER FOR MUNICIPAL RESEARCH**

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CLIMATE CHANGE

# Building Resilient Florida

Local adaptations toward statewide transformation

by Jeff Carney and Cleary Larkin  
University of Florida

For many Florida cities, climate change is not leading to sudden catastrophe but to an accumulation of smaller events such as nuisance flooding, housing shortages and water quality issues that cumulatively are creating large impacts. Such chronic concerns place a demand on municipal officials to act effectively in the short term, pushing long-term resilience off for another day.

In the face of worsening coastal conditions, the pressing needs of today can overshadow future needs, especially for municipalities without large planning staffs or resilience efforts led by nongovernmental organizations.

The **University of Florida's** Florida Resilient Cities (FRC) is a new research program helping communities across the state develop the capacity to be more prepared for and more resilient to increased risk. Led by the **Florida Institute for Built Environment Resilience** (FIBER), the program bridges community needs with design research through the College of Design, Construction and Planning, partnered with faculty from departments across the university

The FRC program offers a design approach to community-scale adaptation. It encourages cities to view climate change solutions as opportunities to invest in redevelopment and adaptive transformation.

## Florida Institute for Built Environment Resilience

In 2018, a group of new **University of Florida** faculty with diverse disciplinary expertise came together to establish the **Florida Institute for Built Environment Resilience (FIBER)**. FIBER is committed to the design, planning, construction and management of resilient built environments, with a strong interest in the well-being of individuals and communities that inhabit them.

FIBER is positioned to respond to the complex threats – ecological, economic and social – that Florida and many regions around the world experience. The institute is home to scholarship-spanning built environment disciplines and beyond, generating new knowledge and responding to these complex challenges through evidence-based research and practice.

Core FIBER faculty are individually affiliated with various disciplines within the College of Design, Construction and Planning (DCP). DCP is a college uniquely equipped to develop resilience-based processes in a world facing complex threats. It houses all critical disciplines that have an impact on the planning, design, construction and sustainability of built and natural environments. More broadly, resilience expertise at the University of Florida spans ecological, economic, organizational, psychological, educational, sociological and engineering approaches.

The vision of FIBER is to function as a critical knowledge hub for resilience research and practice, working alongside communities, organizations and institutions to build multi-scale strength and well-being.

affordable housing, environmental management and policies for adaptation to sea level rise.

In partnership with city residents and faculty, FRC will identify project champions to represent the community's interests. It will provide for a successful handoff after the completion of spring 2020 projects and spur further implementation efforts.

Florida's most effective tool for resilience lies in the creativity of its citizens and the capacity of municipal leaders to structure, coordinate, fund and implement projects. The FRC program is an effort to help cities realize their potential and to help them to reach it by demonstrating resilience at the urban and regional scale.

Jeff Carney, AIA, AICP, is an associate professor in the School of Architecture and associate director of the Florida Institute for Built Environment Resilience (FIBER) at the University of Florida. Cleary Larkin, Ph.D., R.A, is a postdoctoral associate for FIBER at the University of Florida. **QC**

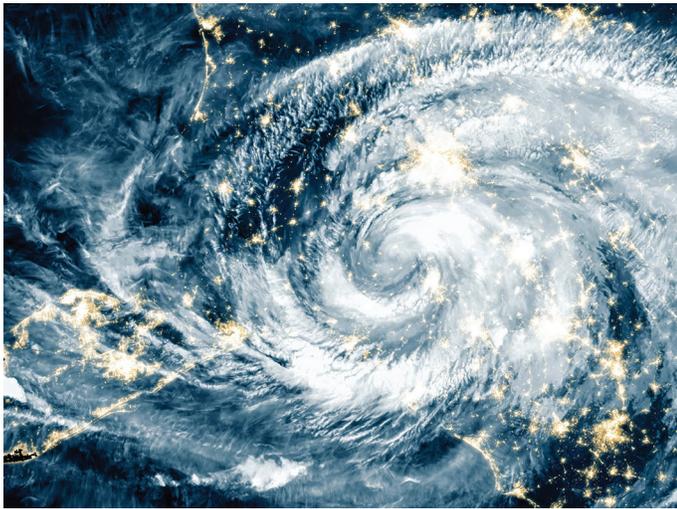


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Through generous support from the Jessie Ball DuPont Fund, the first FRC project is focused on the **City of Port St. Joe** and the surrounding region's storm recovery and long-term resilience. The leadership team includes FIBER, the Shimberg Center for Housing Studies and the Center for Landscape Conservation Planning.

On October 10, 2018, Hurricane Michael made landfall near **Mexico Beach** and was the first Category 5 hurricane to hit the U.S. mainland since Hurricane Andrew in 1992. The storm devastated communities across the Florida Panhandle and into Georgia. One year after the storm, people throughout the region are working to move forward.

The FRC approach involves three specific strategies:

- ▶ **Taking a design thinking approach.** Design projects can connect the values and goals of a broad range of stakeholders behind strong and optimistic community visions.
- ▶ **Applying the best science for effective problem-solving.** Achieving long-range resilience requires baseline data and forecasts that support redirecting investments into areas facing less risk from future events.
- ▶ **Building local adaptations toward statewide transformation.** Successful local projects build local support to champion, fund and implement adaptation that provides the best practices for statewide policy.

### HOW THE PROGRAM WORKS

Developing resilient communities requires a process that:

- ▶ empowers and synthesizes values and goals of a broad range of stakeholders.
- ▶ incorporates dependable baseline data reflecting future conditions.
- ▶ helps impacted communities fund and implement projects.

Through collaborative research projects, access to data analytic tools and community planning and design, FRC will help Florida cities meet the challenges that lie ahead.

The FRC has begun engaging city officials and residents of Port St. Joe and Gulf County through a workshop held in September. The FRC recently released a call for research and teaching projects to the faculty to provide solutions to the most pressing challenges within a broad range of themes. Those themes include



TRENDS

# State of the Cities

2019 report provides a snapshot into Florida's municipalities

by Liane M. Giroux  
Florida League of Cities

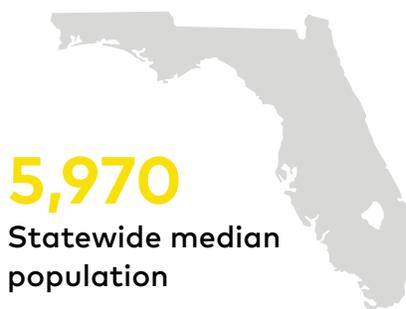
Florida's cities, towns and villages are centers of economic, social and cultural energy. As the state's population and demographics change, so do the needs of each city as new residents bring fresh perspectives, ideas and desires.

As cities change, they strive to provide their services efficiently and effectively. Each day, cities are solving problems, collaborating with their communities and identifying opportunities to improve the quality of life for their citizens.

Florida is predominantly a state of small cities. Of Florida's 412 municipalities, 45% have populations of less than 5,000, and only 11% have populations greater than 60,000. Since 2000, 12 new municipalities have been incorporated in Florida. Today, most Floridians (50.7%) live in cities.

Florida League of Cities members, in their organization and activities,

reflect the rich diversity of the residents who call them home. By allowing local voices to make local choices, we ensure cities have the resources and authority necessary to respond to the unique demands of their residents.



City residents use Home Rule authority to determine the level of municipal services and facilities that best fits their needs. Cities use a variety of revenue

sources to fund these services, but the most common are the communications services tax, the local business tax and franchise fees.

While property tax is an important revenue source for most cities, it provides less than half of the revenue upon which municipalities rely statewide. In FY 2018-19, 79% of cities maintained or reduced their property tax (millage) rates.

As the number and level of municipal services vary from city to city, so does the number of municipal employees needed to deliver those services. Staffing levels in Florida cities vary greatly based not just on the city's population but also on how municipal services are delivered. Depending on service delivery methods, city staffing levels can range from fewer than 10 employees up to more than 1,000 employees. In 2019, the statewide median was one municipal employee for every 110 residents.

Cities typically provide services directly by city employees or by contracting with another government entity such as a county. More than 90% of cities provide building inspection, building permitting, construction and code enforcement, and planning services. High priority is also put on municipal facilities that enhance quality of life such as parks, outdoor courts and playing fields, and recreation centers.

Many Floridians also rely upon cities for basic and essential services such as water, sanitary sewers, stormwater management and solid waste collection. Water service is provided by 67% of cities, and nearly 45% provide water service to another jurisdiction. Through a variety of service delivery methods, 87% provide solid waste collection to their residents.

Public safety remains a top priority for cities. Most Florida cities participate in a consolidated dispatch program for law enforcement, fire and emergency medical services. Well over four-fifths of Florida municipalities provide police and fire services for their citizens.

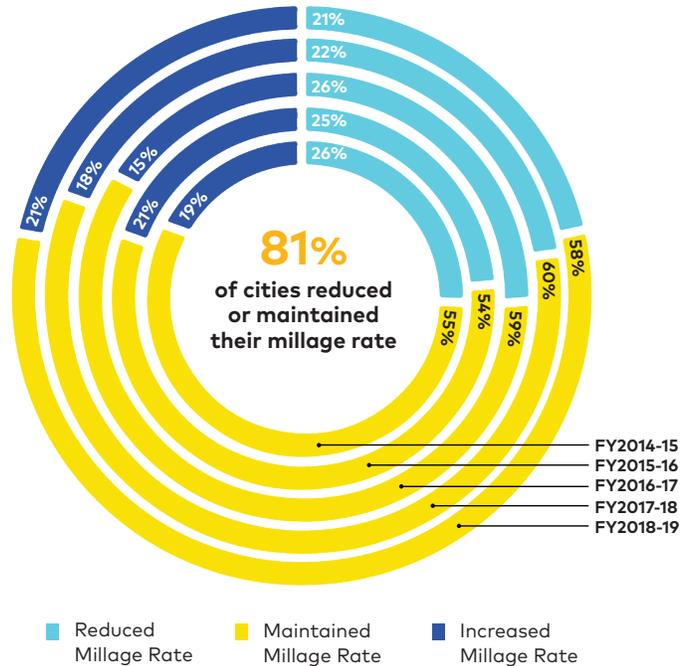
Florida's cities continue to meet the needs of their residents by tailoring their services and revenue sources to fit their municipalities, while still striving for the same goal: to do the best, most efficient job of providing for their communities.

To read the *2019 State of the Cities* report, visit [flcities.com](http://flcities.com) and look under the "Research + Resources" heading. This annual report is a snapshot of some of the most notable highlights pulled from numerous **Center for Municipal Research** data analyses, which are available in full on the League's website or through a request to CMR staff.



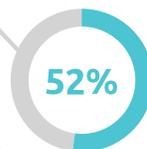
Liane M. Giroux, CAE, is the research analyst for the Florida League of Cities Center for Municipal Research.

Contact her at [lgiroux@flcities.com](mailto:lgiroux@flcities.com).



Only 14% of cities in **Northwest** and **Northeast Florida** use **non-ad valorem assessments** as a revenue source.

Other regions in the state utilize them as follows:



**Central Florida**



**Southwest Florida**



**Southeast Florida**

## Every City's Data Matters!

Check your email for 2020 survey launch information.

**Need to know how many cities in your population range have the same form of government as your city?**

**Wonder how many cities in your region contract out their fire services and to what entity?**

**Searching for the average surcharge imposed by cities that provide water service to neighboring jurisdictions?**

**Trying to draft an ethics ordinance and wondering which other cities have one?**

The **Center for Municipal Research** can help.

Through the CMR's annual CityStats survey, answers to these questions and more can be provided to our member cities' elected officials and staff. But only if you participate!

It's important that the CMR receives the largest possible percentage of responses from members of the **Florida League of Cities**. The data is most relevant with a 100% response rate because then it is a true reflection of municipal activities for the year. Also, it helps determine trends over multiple years.

How is the data used?

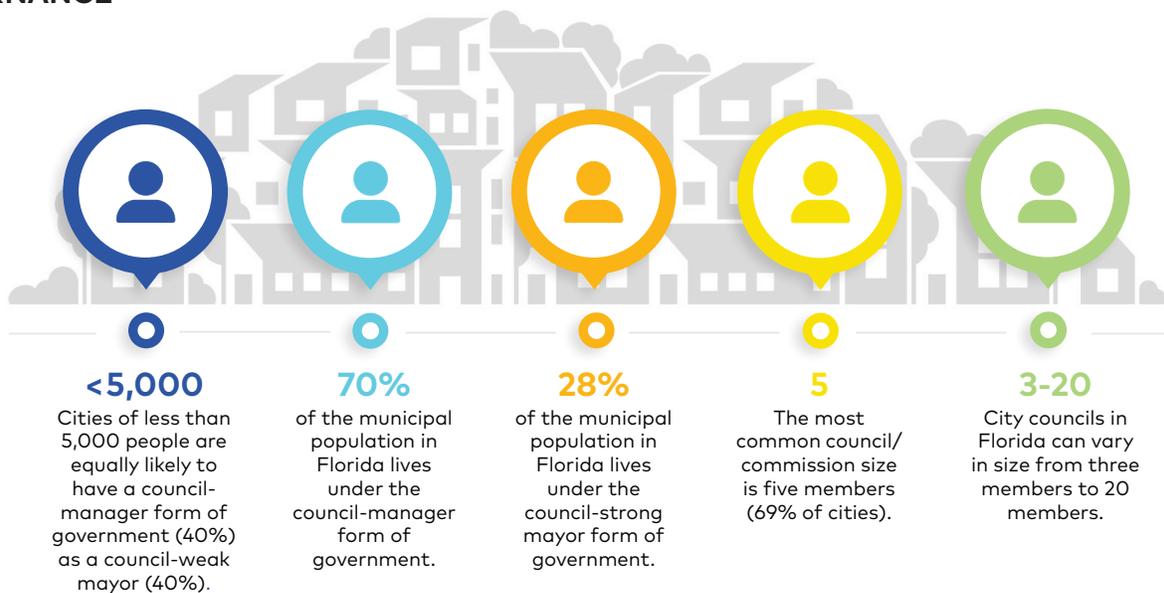
- ▶ To produce the annual *State of the Cities* report.
- ▶ To support the League's legislative advocacy efforts.
- ▶ To guide **FLC University's** training and education opportunities.
- ▶ To provide answers for dozens of data inquiries per year from member cities.

Much of the data collected through the survey is not available anywhere else. League members can use the results for a better understanding of issues in their communities and for determining how national, statewide and regional trends and events are impacting Florida cities.

In 2019, CityStats surveys were collected from 346 of Florida's 412 cities, totaling 80% of the total statewide municipal population. Watch your city's email for this year's survey.

Contact **FLC Research Analyst Liane Giroux** at [lgiroux@flcities.com](mailto:lgiroux@flcities.com) for more information.

## GOVERNANCE



Visit [flcities.com](http://flcities.com) and look under "Research + Resources" to read the 2019 *State of the Cities* report. The report reviews budget, employment and the economy; population and governance; facilities, services and utilities; and public safety.



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## CYBERSECURITY

# Readiness Is Key

In light of recent survey results, consider steps to improve your city's status

by Ron Sanders  
and  
Stephen Neely  
University of Florida

**G**overnments of all sizes increasingly rely on internet-based technologies to deliver a wide range of public services, as well as to manage and maintain basic administrative functions. Moreover, these same agencies and jurisdictions are often responsible for safeguarding gigabytes of sensitive information about the constituents they serve, including social security numbers, health records and other personally identifiable information. While efficient and convenient, these technological advances bring new cybersecurity-related threats.

From accidental data spillage to malicious ransomware attacks, several local governments have already learned hard lessons about the criticality of cybersecurity and the need for effective planning and leadership in an increasingly connected society. Given the fiscal and staffing constraints often faced by local agencies, adapting to these emerging threats is a particularly acute challenge for municipal governments. Local government leaders are increasingly being asked to do more with less.

To identify opportunities where it can better partner with local governments to meet these challenges, **Cyber Florida** recently sponsored a survey of the state's local government leaders to learn how they are responding to the growing number of cyberthreats. The study was carried out by faculty at the **University of South Florida's School of Public Affairs** with the **Florida League**

**of Cities, the Florida City and County Management Association, the Florida Association of Counties and the Florida Local Government Information Systems Association.** The survey responses highlight effective and relatively inexpensive opportunities to strengthen and improve the cybersecurity-readiness of Florida's local jurisdictions.

The Local Government Cybersecurity Survey was administered in spring/summer 2019 to city managers and county administrators in Florida. The questionnaire specifically examined how those "chief executives" prioritize cybersecurity as well as how they operationalize and communicate those priorities to internal and external stakeholders. The FCCMA distributed the questionnaire electronically to active chief executives among its members. In total, 101 usable responses were received (47% response rate). A complete summary of the survey results is available at [cyberflorida.org/gov-survey](http://cyberflorida.org/gov-survey).

### KEY FINDINGS

While Florida's local government leaders demonstrate a keen awareness of the cyberthreats facing their jurisdictions, the responses suggest that cybersecurity has not yet received the same level of prioritization as other areas, such as budgets and public safety.

For example, 77% of survey participants reported that they either “rarely” (30.7%) or “never” (46.5%) list cybersecurity as a regularly scheduled agenda item at senior staff meetings. Less than 5% indicated that they “always” do so.

#### OTHER KEY FINDINGS:

- ▶ The responses highlight opportunities to increase cybersecurity preparedness through greater employee awareness, especially given that the vast majority of successful cyberattacks are a result of poor cybersecurity practices by unwitting employees. Less than half of respondents (45.5%) reported that “all new employees receive cybersecurity training as part of their on-boarding process.” Similarly, less than half of the respondents (44.5%) indicated that all employees receive annual cybersecurity training updates. In many instances, respondents answered “no” to both questions, which suggests that some employees in these jurisdictions receive no cybersecurity training at all.
- ▶ When it comes to “practicing” cybersecurity in their jurisdictions, nearly 70% of respondents reported that they had not directed or participated in a mock spear-phishing exercise in the past 12 months, while 84% had not practiced their jurisdiction’s cyber incident response plan during the same timeframe. This also represents an opportunity for local jurisdictions to enhance their cybersecurity-readiness.
- ▶ Lastly, the responses highlight opportunities to improve the management of third-party contracts, a prevalent attack vector for cybercriminals, particularly given the extent to which local jurisdictions outsource the provision of public goods and services. Based on the survey results, less than one-third (28.7%) of local jurisdictions provide cybersecurity standards to their external vendors and contractors.

These findings are unsurprising, as Florida’s local governments face significant fiscal constraints. Their leaders must often make hard budgetary choices and trade-offs, including those that involve cybersecurity. However, the good news is that there are simple, low-cost ways to improve the cybersecurity preparedness of any local government or agency. (For recommendations, see sidebar.) For more information on the report and the resources available to help your jurisdiction implement these recommendations, visit Cyber Florida at [cyberflorida.org](http://cyberflorida.org).

Ron Sanders, D.P.A., is director and clinical professor for the School of Public Affairs at the University of South Florida. Stephen Neely, Ph.D., is associate professor for the School of Public Affairs. 

## Recommendations

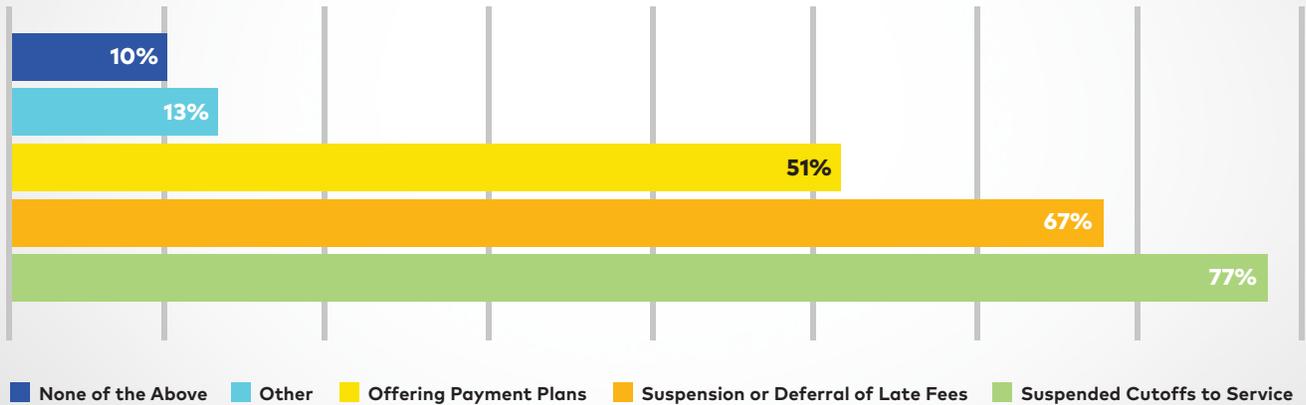
Cyber Florida and its partners offer four simple, strategic recommendations to help local jurisdictions become more “cyber-ready”:

- ▶ **Encourage a “cyber-secure culture.”** Staff and employees identify an organization’s values based on the priorities emphasized and reinforced by senior leaders. Local government leaders are encouraged to make cybersecurity a regularly scheduled agenda item in staff meetings and to routinely communicate cyber-related updates to staff at all levels of the organization.
- ▶ **Provide cybersecurity training for all employees.** Training goes hand-in-hand with a cybersecure culture, and web-based training is a cost-effective way to ensure that all employees understand the risks and responsibilities associated with their use of technology.
- ▶ **Keep in mind that practice makes perfect.** Local government leaders are encouraged not just to proactively develop cyber-incident response plans (based on industry knowledge and best practices) but also to practice these responses regularly to ensure that staff and employees know what to expect if a real cybersecurity crisis occurs.
- ▶ **Engage in active information sharing.** There are a variety of avenues through which local government leaders can share critical information, including threat intelligence, attack forensics, technical expertise and even cyber preparedness and response plans. One such venue, which was found to be underused in the survey results, is the Multi-State Information Sharing and Analysis Center (MS-ISAC), which was developed specifically to connect and support state and local governments in the area of cybersecurity. For more information, go to [cisecurity.org/ms-isac](http://cisecurity.org/ms-isac).

## Cyber Florida at the University of South Florida

The **Florida Center for Cybersecurity (Cyber Florida)** is a state-funded organization dedicated to positioning Florida as a national leader in cybersecurity through education and workforce development; innovative, interdisciplinary research; and community outreach. Hosted at the **University of South Florida**, Cyber Florida works with all 12 State University System of Florida institutions as well as industry, government and defense to build partnerships and develop programs that grow and strengthen Florida’s cybersecurity industry. Visit [cyberflorida.org](http://cyberflorida.org) for more information.

## How cities are addressing utility bills and fees (based on 122 respondents with city utilities)



Source: Center for Municipal Research Resources and Fiscal Impacts Survey

### DATA

# Survey Responses Yield Insights

Cities offer valuable information about COVID-19 response

by Liane M. Giroux  
Florida League of Cities

The coronavirus pandemic and its rapid effects on municipal government operations demonstrated the vital importance of data in day-to-day decision-making and policy development. The **Florida League of Cities Center for Municipal Research** has worked for years with cities to aggregate a comprehensive database of municipal information. That database has proved invaluable in assisting with advocacy efforts on behalf of municipalities.

As events unfolded over the past several months and more information was needed, Florida's cities responded quickly and comprehensively to every data request and survey the Center distributed. Thank you! The Center's staff cannot express enough how critical that network of data collection contacts has been in fulfilling numerous requests.

During the COVID-19 beginning phases in Florida, the League worked with several government agencies and statewide associations to collect necessary data to help develop appropriate responses and assist with policy decisions. Five surveys were conducted in 10 weeks between March 13 and May 18 with an average response rate of 53% of Florida's 411 municipalities.

The Center for Municipal Research's COVID-19 data collection efforts include:

- ▶ Assisted the **Florida Division of Emergency Management** in collecting information as it relates to COVID-19 mobile sample collection/testing sites including what agency/hospital facilitated the sites.
- ▶ Surveyed Florida's cities to better understand how cities are responding to the COVID-19 pandemic through the

development of staff travel restrictions for business and personal travel.

- ▶ In response to a request from the **Office of the Governor**, the Florida Division of Emergency Management and the **Florida Department of Health**, surveyed cities regarding municipal actions to help prevent the spread of the COVID-19 virus.
- ▶ With the **Florida Government Finance Officers Association**, conducted a survey of local governments regarding changes in workforce policy in response to COVID-19.
- ▶ With the **Florida League of Mayors**, conducted a survey of cities to more accurately explain the fiscal impact this pandemic has had on local government finances and additional costs cities have incurred due to the pandemic.

Please note: Survey responses represent a snapshot of activities based on recommendations and requirements current for the timeframe surveyed. This is a fluid situation, and policies may change frequently to adapt to citizen needs. Survey questions refer to specific formal policy adoptions; however, cities are able to adopt recommendations, etc., at their discretion based on state and federal recommendations without a formal policy being put in place.

### KEY TAKEAWAYS FROM SURVEYS

- The key takeaways from the **Travel Restrictions Survey** are:
- ▶ 39% adopted a policy on business travel limitations for city employees in response to COVID-19.

- ▶ 23% adopted a policy on personal travel limitations for city employees in response to COVID-19.
- ▶ 56% have in place or are developing a policy to allow for city employees to telecommute in response to COVID-19.

The key takeaways from the **Emergency Declarations Survey** are:

- ▶ 83% of cities closed their city hall to the public in response to COVID-19. 72% closed them completely, and 11% developed modified procedures to deal with the public in a limited capacity, such as by appointment only.
- ▶ 71% of cities adopted a local emergency declaration or order in response to COVID-19 in addition to what was declared by their counties and the state.
- ▶ Nearly half of all cities adopted or issued proclamations or ordinances regarding the use of public facilities in response to COVID-19 in addition to those issued by their counties. The most common regarded park closures, beach closures and social distancing recommendations.

The key takeaways from the **Workforce Policies Survey** are:

- ▶ 30% of cities addressed budget shortfalls through facilities closures and/or modified office hours. 75% also used other measures such as hiring and spending freezes.
- ▶ 63% of cities adopted or amended attendance, pay or health condition assessment policies related to COVID-19.

The key takeaways from the **Resources and Fiscal Impacts Survey** are:

- ▶ 55% of cities are offering programs to assist businesses and individuals impacted by COVID-19. The most common are food distribution programs, suspension or deferral of rent for city-owned properties and administering a grant or loan program.
- ▶ 77% of cities with a utility have suspended cutoffs to utility service. 67% of cities with utilities have suspended or deferred late fees, and 51% are offering payment plans to customers.
- ▶ 70% of cities noted that they are experiencing public safety challenges due to COVID-19. Those challenges include enhanced protocols and increased resources for first responders as well as a need to acquire additional PPE for first responders, prolonged activation of emergency operations and increased public safety presence and demand.

Individual survey response rates and analyses can be found on the FLC website at [flcities.com](http://flcities.com) (search for “COVID-19 survey results”) or by contacting FLC **Research Analyst Liane M. Giroux** at [lgiroux@flcities.com](mailto:lgiroux@flcities.com).



Liane M. Giroux, CAE, is the research analyst for the Florida League of Cities Center for Municipal Research. 

## Participation Needed For CityStats Survey

Now more than ever, every city's data matters! Make sure your city is included.

The **Center for Municipal Research** is here to help you. Do you need to know how many cities in your population range have the same form of government as your city? Do you wonder how many cities in your region contract out their fire services and to what entity? Are you searching for the average surcharge imposed by cities that provide water service to neighboring jurisdictions? Are you trying to draft an ethics ordinance and wondering which cities have already done so?

Through the Center's annual CityStats survey, answers to these questions and more can be provided to our member cities' elected officials and staff. But only if you participate! **The 2020 survey was launched on June 29** via email to all Florida cities.

It's important that the Center receives the largest possible percentage of responses from members of the **Florida League of Cities** (FLC). The data is most relevant with a 100% response rate because it then is a true reflection of municipal activities for the year and it helps determine trends over multiple years.

How is the data used?

- ▶ To support the League's legislative advocacy efforts.
- ▶ To guide **FLC University's** training and education opportunities.
- ▶ To provide answers for dozens of city data inquiries per year from members.
- ▶ To produce the annual *State of the Cities* report.

Much of the data collected through the survey is not available anywhere else. League members can use the results for a better understanding of issues occurring in their communities and for determining how national, statewide and regional trends and events are impacting Florida cities.

In 2019, CityStats surveys were collected from 346 of Florida's 412 cities, totaling 80% of the total statewide municipal population. The Center strives to exceed that response rate in 2020. Check your city's email for this year's survey.

Contact FLC **Research Analyst Liane M. Giroux** at [lgiroux@flcities.com](mailto:lgiroux@flcities.com) for more information.



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COMMUNICATION

# Hurricane Evacuation Orders

Does messaging change how residents respond?

by Jennifer M. Connolly  
University of Miami

No city in Florida is immune to the impacts of hurricanes. During an active hurricane season, evacuation orders are one of the many ways that Florida's local governments help keep residents safe. However, it's important to deliver the news of a hurricane evacuation order to your residents in a way that effectively encourages the most people to leave town.

The **University of Miami** recently conducted an experiment with 1,959 Floridians to see how different ways of communicating evacuation orders impacted people's willingness to comply. We wanted to see if local government officials could adjust their messaging strategies to encourage more people to leave town. Our results suggest that when it comes to sharing the news of a hurricane evacuation order, the more certainty, clarity and consistency to the message, the better.

For our experiment, participants were split into six groups to test different messaging strategies. All participants were told to imagine that weather experts are predicting a major hurricane will make landfall in the area within the next few days. We then told participants that local government officials have issued a statement. We varied the wording of the statement shared with each group of participants and then asked how likely they would be to evacuate.

One group saw only the baseline, or control, statement: "We are issuing a mandatory evacuation order. It is paramount that you heed your government's request." The remaining five groups saw the baseline statement plus one piece of additional information, which was different for each group.

In other words, we tested five messaging strategies against the

control statement to see which, if any, of the different messaging approaches would increase or decrease people’s willingness to evacuate:

- ▶ One message was uncertain, indicating that officials do not know the strength of the storm nor its expected time of landfall and that they cannot require anyone to leave.
- ▶ The second message evoked peer pressure, stating that half of the town’s residents and many neighbors have already left.
- ▶ The third message provided a financial incentive; participants were told they could pick up a \$50 gas card to help them evacuate.
- ▶ The fourth message implied there would be door-to-door police enforcement of the evacuation order.
- ▶ The fifth and final message stressed the strength of the storm and the threat it posed to life and property.

The uncertain statement was the only one that had a significant impact on people’s willingness to evacuate, and it made them significantly less likely to evacuate. The peer pressure strategy elicited the highest rate of compliance, but not enough to be significantly different from the control statement. Similarly, none of the remaining strategies (financial incentives, door-to-door enforcement or explaining the risk) made people significantly more likely to evacuate than the simple control statement.

The best thing you can do when sharing an evacuation order with your residents is to be clear and consistent in your messaging.

If on Monday you say publicly that the storm is not strong enough to warrant an evacuation order, and then on Tuesday you change your mind and tell residents to leave town, this may send mixed signals to residents and make them less willing to comply with the order. In other words, be careful not to say that the storm is a minor threat one day and a major threat the next.

Once you decide to issue an evacuation order, communicate the order with confidence, and be clear and consistent in all subsequent communications.

During the early days of the coronavirus pandemic, public health officials said members of the public need not wear masks. However, they later suggested mask wearing by all members of the public was vital for slowing the spread of the virus. Unfortunately, this mixed messaging contributed to many people disregarding the advice of public health officials. Our experiment suggests the same is true with hurricane evacuation orders: mixed messaging makes people significantly less likely to comply with government directives.

Whether it is a public health emergency or an impending hurricane that threatens your city, being clear and consistent when communicating with residents will help increase public compliance with local directives.

Jennifer M. Connolly is an associate professor of political science at the University of Miami. This research was conducted along with Joseph Uscinski, associate professor of political science, and Casey Klofstad, professor of political science, both at the University of Miami. The University of Miami College of Arts and Sciences provided funding for this research. 