The Providence Journal

LOCAL

Rhode Island is getting hotter. How cities and towns can help make it cooler

Street trees are an easy way to cool cities

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Providence Journal

Aug. 19, 2025, 5:00 a.m. ET

Key Points

- Cooling centers are seen as a key practice
- Days and nights in the summer are getting hotter
- Local zoning rules can increase neighborhood resiliency

PROVIDENCE – As summers in Rhode Island get hotter, the need for municipalities to create safe places for people to avoid heat-related injuries and death is increasing.

Nathan Kelly, of Horsley Witten Group, is a consultant who helps communities look at how to deal with climate-related issues, including how planning and development can ease the rise in temperatures and heat waves. The group has offices in Boston, New Hampshire, Cape Cod, the U.S. Virgin Islands and Providence, where Kelly is based.

Kelly answered questions about how municipalities can deal with a new world where what were once the temperature extremes are increasingly becoming the norm.

The interview has been edited for length and clarity.

How are heat waves different now from what they were in the past, and what can we expect now?

Heat waves are more frequent and they're more intense, and by intense, that's hotter and longer. The number of days, for example, that exceeds 90 degrees, we're at or above two weeks per year. And the forecast for that is that this is just going to continue to increase.

That number of days where we have really hot weather, there's going to be more of them. And part of the way we experience that, you know, everything when it comes to a heat wave is about relief. How do we get relief? And one of the easiest ways is to wait until sundown.

But unfortunately, the warmer nights are becoming a bigger part of this. So people are not getting the relief that they used to during the hot days. We have more nights that are over 75, 80 degrees. And so you're looking for that nice, easy sleep, you're looking for that chance to cool down, and those aren't really being offered by the weather anymore. And again, that's only going to increase as we go forward.

Who is most at risk from heat wave impacts?

People who work outdoors, obviously. They've got their work cut out for them and trying to stay hydrated and trying to seek relief all the time. Folks who have health conditions or who are compromised, the elderly, particularly young people, pregnant women, these are the folks that you see who have disproportionate risk to a lot of different things.

But I think what's really important in this particular question is just very simply who has access to cool places. And that may be something that some of us take for granted. But when someone like myself, who is doing urban planning, looks at a city, for example, like Providence, I can see on a map, just by looking at tree cover and parks and streets and facilities, who has access to cool places and who doesn't. We've seen studies where people measure the temperature in the air in

an affluent site. ... The difference can be over 10 degrees.

That's because of the lack of investment in parks and trees and shaded areas. And so our low-income communities of color are at highly disproportionate risk when it comes to the impacts of heat waves.

What can cities and towns do to mitigate impacts from heat waves?

I think one of the important things to note here in my work is that I see an expectation that local government is going to play an important role here. So that's important, you know, that the folks who are feeling these impacts want to help, and they do want help from local government.

And a lot of local governments are doing a great job. Some of this is just in the planning phase, you know, getting a sense of what types of impacts we're seeing, mapping those impacts, talking with emergency rooms, understanding who again are those vulnerable populations.

"Thinking about cool temperatures as an essential service. So a lot of times you'll see cooling centers, something that's advertised by a city or a town, 'Please come to the library. Please come to the senior center.' If you're having trouble, if you're struggling with the heat, these are places where you're welcome and you can hang out for no cost and you can cool down, meet some people, partake in some activities.

Parks, planting trees, tree maintenance. These are all things that cities and towns can invest in. Again, thinking about this as essential services that they can provide."

What are long-term strategies the state should consider?

I think one of the most important roles for the state is with data. So state government plays a great role, a very important role when it comes to gathering

data, making that data available and looking at that data across the entire state. So again, mapping vulnerable populations, mapping cooling centers, mapping parks, understanding where all of that's happening.

Part of the equation of finding relief is making sure that your grid, your electric grid, can handle the demand from the air conditioners and everything else that goes into this.

Coordinating with energy providers, allowing for microgrids to be installed. Batteries at the local level. Again, to support those peak demands because nothing's worse in the middle of a heat wave than the grid goes down and nobody has access to air conditioning at that point. That's a really important role that the state can play with that.

What are Rhode Island municipalities doing already, and is it effective?

So cooling centers, making sure that people have access to spaces with air conditioning if they're struggling at home to access that sort of relief. Things like spray parks and splash pads, you're seeing a lot more of those popping up in places like Providence, East Providence, Pawtucket, Central Falls, are giving a place for the kids where they can go play outside and do it in a way that's not dangerous to their health.

It's actually providing relief. So get out there, get wet, run around and have some fun. This is another example of something that cities can provide along with public pools. These are all great things that can happen at the municipal level.

I think one that's talked about less, because it's just not as interesting or appealing to the average person as to the everyday folks, is regulatory reform.

I think a lot of communities are doing a great job now trying to weave some of this into development regulations, trying to make sure that street trees get planted and done in a healthy way so that those trees survive and thrive and

provide the kind of shade that's going to be needed in the long term, installing landscapes that provide for heat relief, providing strategies for different types of surfaces and parking lots and on rooftops.

Providence is an example where they created the Providence Tree Plan several years ago, working with the Providence Neighborhood Planting Program. So, these folks are a great model for, again, doing things like generating information, mapping tree canopy, going door to door. They can provide the sort of human resource that the city may not be able to do.

The city may not have the staff to go door to door and educate people around these, but a local neighborhood group can do that and wants to do that, gives people an opportunity to know what their resources are to help them with this type of thing and sort of move things forward at a neighborhood scale. Those types of partnerships are going to be really critical going forward, especially as budgets continue to get stretched thinner and thinner at the local government level.

I think this is a matter of education. I think our leadership really does need to be educated on two aspects of this. One, I don't know that everybody truly understands the benefit of trees at a very basic level. I don't. And the great news is that we have very good data. We have data to show that communities with a lot of shade have fewer visits to the emergency room due to heat-related impacts. We have air temperature data that shows dramatic differences between streets that are well shaded and streets that aren't. We have great mapping that shows incidence of asthma related to tree cover. I mean, they match on the map.

Understanding the benefits and how real and significant they are will help local leaders engage in those conversations where people just want to resist and say, 'Oh, this is heaving the sidewalk, the trees are dying,' you know, and all of those are legitimate concerns. But if you see the benefits, you're more willing to engage in that challenging conversation. And then I think the next piece, you know, has to do with that installation.

We have a lot of trees in the city of Providence where I live that are well over 100 years old, and they were clearly not selected well for their environment. The sidewalk's a mess, the tree is struggling. You can tell that, you know, despite the fact that it's managed to live a long time, it hasn't been easy.

"There are other tree selections, other planting practices where things are much more healthy. The infrastructure is in good shape, the tree is allowed to grow in a way that's healthy. Landscape architecture and engineering, you know, there's, in terms of the level of effort and the level of detail, it's the same level of detail as you would put in a stormwater pipe. It has to be engineered. It's got to be done in a way that's going to allow that tree to evolve and grow and thrive in a challenging environment. Trees evolved in the forest. They didn't evolve on sidewalks. And so we have to take special care to make sure that they can thrive in that environment."