

Is your township a resilient community?

Michigan communities are no strangers to the notion of resilience. No state in the union is more accustomed to taking a hit and getting back up. Most communities across the state can recount at least one tale of hardship, whether it was a cornerstone business shutting its doors, the loss of an entire crop of fruit blossoms to a surprise frost, or yet another maddening season of Detroit Lions football.

Time and again, Michigan has demonstrated a gritty toughness and stoic work ethic; these characteristics allowed for the greatest manufacturing center of the 20th century to rise from the near-total collapse of what was the greatest timber center of the 19th century. That same toughness has held the state together through the Great Recession, and it's that sense of optimism in the face of utter despair that keeps us coming back to the Lions.

But on the immediate heels of some of the worst economic conditions the state has ever seen, what are we left with? For townships across Michigan, the answer boils down to having to do more with less—sometimes a lot more with a lot less.

Making time for the big picture

When the delivery of basic government services is threatened by dwindling revenues and strained resources, townships can be forgiven for indulging in the here and now, particularly since Michigan's current transformation still leaves us with more questions than answers (a condition of intractable uncertainty that community planners poignantly refer to as "wicked"). *Has the manufacturing plunge leveled off? What about land values? And when do I have the time to think about the big picture between budget cuts and potholes?*

Of course, communities that don't make time for big-picture thinking do so at their own peril, a recognition enshrined in state law through statutes like the Michigan



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—Alan Barron,
Monroe Charter
Township
(Monroe Co.)
Supervisor

Planning Enabling Act (Public Act 33 of 2008). Local governments are the primary conveners of public discussions concerning community development and civic life. Local governments create and host a wide array of citizen-driven processes for land use planning, economic development and community problem-solving.

The Planning Enabling Act ensures that a community comes together at least every five years to review its own big picture: the municipal master plan. But one of the most “wicked” problems facing townships is that some of today’s most powerfully disruptive and costly forces appear far beyond the reach of local control. Global economic shifts had far more to do with the Great Recession than any local planning commission. In the face of climate change, no government of any size wields direct control over harmful weather events. More than ever, the “big picture” seems as if it’s becoming too big to handle.

Building community resilience

Engaging in a community planning process with resilience in mind helps communities to cut big, unwieldy problems down to size. Resilient communities are able to learn from adversity and adapt quickly to change, thereby limiting harm that might arise from the change and making the most of the new conditions. By adapting rapidly to changing circumstances, communities can go beyond surviving challenges; they can thrive.

Planning for Resilient Communities Projects

Resilient Monroe
Monroe Charter and
Frenchtown Charter
Townships (Monroe Co.), and
the City of Monroe

Resilient Ludington
Pere Marquette Charter and
Hamlin Townships
(Mason Co.), the City of
Ludington and Mason County

**Resilient
Grand Haven**
Grand Haven Charter
Township (Ottawa Co.) and
the City of Grand Haven

Resilient East Jordan
South Arm Township
(Charlevoix Co.) and the
Village of East Jordan

Resilient St. Joseph
The City of St. Joseph

cover story

In municipal planning and development, some of the most important characteristics of community resilience are:

- strong and meaningful social relations
- social, economic and environmental diversity
- innovation and creative problem-solving
- extensive use of ecosystem services

Communities interested in becoming more resilient assess their vulnerabilities and make action plans to reduce their sensitivities and exposures to hazards of all kinds. For example, local governments can improve building standards to reduce heating and cooling challenges posed by severe temperature swings, adapt stormwater practices to better manage more intense rain events, and preserve ecosystem services such as coastal wetlands to combat shoreline erosion and inundation. Based on its own unique vulnerabilities, culture and existing infrastructure, each community must explore and employ different tools to best strengthen its resiliency and ability to adapt to challenges.

Planning processes can help increase civic engagement by improving communications and cooperation between cultural and service organizations and by organizing larger community projects. Such improvements in social cohesion and civic engagement lead to improved community resilience by increasing the capacity of volunteer organizations to

address evolving community needs and by providing more secure neighborhoods, among other things. Increased engagement also helps deepen the community's overall connectivity among organizations and individuals, fostering the social ties that keep a region strong. When its networks are robust, a community is more adaptable to changes.

To improve economic resilience, communities can work to encourage and support local production of goods and supplies, increasing self-reliance and reducing the flow of funds out of the community. Programs to encourage local investing and entrepreneurship have been helpful in building both employment and production capacity. Local investments, consumption of locally produced products, and locally owned businesses all help to diversify the community's economy, giving it greater resilience.

For example, Local First of Grand Rapids funded a 2008 study of local businesses in Kent County to better evaluate how local businesses impact mid-sized communities in Michigan. They found a 10 percent shift in consumer spending toward locally owned businesses would create \$140 million in new economic activity, 1,600 new jobs, and \$50 million in new wages. According to the research firm Civic Economics, when West Michigan consumers choose a locally owned business over a non-local alternative, 73 percent more money stays in the community.

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Planning for resilient communities in Michigan

A statewide project, *Planning for Resilient Communities*, is applying a resilience lens and a systems approach to local planning in Michigan. Through this project, local governments are building capacity to account for forces beyond their own control, adapt to the inevitable and often unpredictable challenges these forces bring, and thrive in the face of change.

Planning for Resilient Communities is a multi-jurisdictional planning assistance program developed by the Land Information Access Association (LIAA) with assistance from the Michigan Townships Association, Michigan Municipal League, Michigan Association of Planning, and the Taubman College of Architecture and Urban Planning at the University of Michigan (U-M). The project mission is to foster and support community-wide master planning efforts that promote community resilience in the face of rapid economic changes and increasing climate variability.

With grant funding from the Kresge Foundation, the Americana Foundation, the Margaret A. Cargill Foundation, Michigan's Coastal Zone Management Program (Office of the Great Lakes, Department of Environmental Quality), and direct assistance from project partners, participating communities receive a full range of professional planning and technical support services. These services include public education and participation processes, data gathering and analyses, evaluation of future scenarios, vulnerability analyses, visioning and goal setting, task identification, and formal master plan development.



Resilient communities must identify populations that are at risk from anticipated hazards, such as extreme temperatures or severe storms.

The project is focused on the small to mid-sized communities that make up the majority of Michigan's settlements. Thanks to the partnerships with U-M and the Coastal Zone Management Program, the project has an additional focus on Great Lakes coastal communities.

Michigan communities are not defined by individual jurisdictional boundaries. Michiganders rely on the people, products, jobs and services found in a larger geographic area—the true extent of their communities. Land-use planning and regulation, and all forms of community development must become more comprehensive, systematic and inclusive to properly address problems like climate change mitigation and adaptation. To foster resilient communities in Michigan, local governments must find a way to plan cooperatively, coordinate their actions, and invest in the future together.

The *planning* here is explicitly focused on master plans. Many larger municipalities around the country have developed separate Climate Action Plans (CAPs) that are ancillary to a master plan. For most Michigan communities, a truly effective CAP will not emerge from special committees or governmental departments, nor will it succeed as an adjunct to other planning efforts. Rather, the CAP will be fully integrated into a comprehensive, community-wide master plan that addresses and guides all sectors and systems of the community. Resilience is as much a mindset and an overall approach to planning as it is an end goal.

A resilient planning process

The *Resilient Communities* planning process begins with a review of current climate data and projections, as well as research into the local weather history. Local newspaper archives are tapped to recount historic weather events. Daily high/low temperatures and precipitation records are obtained from the National Oceanic and Atmospheric Administration Midwestern Regional Climate Center. Additional climate data and regional projections (downscaled summaries) are solicited from the Great Lakes Integrated Sciences + Assessments project.

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Students from two Monroe area high schools took part in a visioning and goal-setting project, offering their thoughts on what would help make their community a more vibrant and attractive place to live.

Along with climate data, the project team conducts a thorough review of existing community-based plans. Master plans and others (hazard mitigation, emergency management, infrastructure, social services, etc.) help to provide a complete view of the community and its existing strategies and structure.

The next phase of work is to conduct a vulnerability assessment that will identify, quantify and locate populations that are at risk from anticipated hazards, such as extreme temperatures, severe storms, wildfire, flooding and wind. A population's vulnerability is gauged in terms of its potential exposure and its sensitivity to the hazard. A sensitivity analysis focuses on provision of services for sensitive populations. Sensitivity to natural hazards includes a number of human population characteristics, such as:

- Age (e.g., older people and the very young)
- General health (e.g., mobility, pre-existing diseases, obesity)
- Socioeconomics (e.g., no high school diploma, living in poverty, minority)

A spatial GIS analysis is conducted using 2010 U.S. Census block level information to measure sensitive populations. Information may also be considered about neighborhoods with housing stock that is dated or made of inferior building materials, or other particular infrastructure vulnerabilities that might disproportionately affect a certain portion of the community under certain stresses.

Two potential exposures of concern for Michigan's communities are flooding and heat. GIS analysis and mapping of flooding vulnerability in project communities includes the use of FEMA Flood Insurance Rate Maps (50- and 100-year flood zones), soil surveys, and historic data.

Heat exposure incorporates the digitization of tree canopy cover and the percentage of impervious surfaces (including building footprints) in the community.

The project team also helps the community complete local economic assessments and leakage analyses to identify opportunities for enhancing the local economy (e.g., greater self-reliance, energy savings, and local retention of funds).

Public engagement

A concerted public engagement effort in each project community begins with stakeholder interviews. Social service providers, emergency managers, public health officials (environmental health and emergency preparedness), the local Commission on Aging, the local hospital, police and fire departments, and the drain commissioner are usually among the first contacts.

These stakeholders provide suggestions for additional contacts, culminating in a day-long Leadership Summit of elected officials, planning commissioners, business people, and community leaders. The summit includes a variety of educational presentations on climate science, the intersection of climate change and public health, local economies and economic resilience, shoreline dynamics, emergency management and response, and green stormwater management.

The Leadership Summit also serves as a networking and recruitment tool for Community Actions Teams (CATs). The CATs come together a total of three times after the Leadership Summit to allow for smaller groups of citizens, elected officials, planning commissioners, and staff members to work together in addressing specific topics, or systems, that sustain the community. The systems often include:

- Agriculture and food
- Access and transportation
- Neighborhoods and infrastructure
- Human and social
- Energy and economy
- Environment and natural

Each CAT develops system-specific recommendations for actions that can be incorporated into each jurisdiction's master plan. The teams may also serve in the longer term to educate the community on specific topics and advocate for their recommendations in the master plan.

Local examples

Planning for resilience does not require brand-new tools or techniques. Most of the policies and programs needed to increase local resilience are familiar and well-tested. The challenge communities face is in finding the cooperative spirit and collective resolve to improve local capacity for absorbing and managing both economic storms and weather events.

Resilience planning should ideally touch every part of the community, from public service delivery systems to municipal capital improvement projects. For small to mid-sized

communities, the municipal master planning process presents the best opportunity to consider all aspects of development and change while engaging public officials and citizens in a broad, educational discussion about alternatives.

Five Michigan communities are currently engaged in the *Resilient Communities* project, with plans to add at least one more coastal community in this fall. At the time of this writing, Monroe has largely completed its planning project, Ludington is well underway, and the communities of Grand Haven, East Jordan and St. Joseph are in the early stages of the planning effort.

Monroe Community

The greater Monroe Community—including the adjoining jurisdictions of **Monroe Charter** and **Frenchtown Charter Townships** (Monroe Co.), and the City of Monroe—was the first participant in the *Resilient Communities* project. The “Resilient Monroe” effort focused on a coordinated review and update of master plans, bringing the planning commissions and elected officials of all three governments together for the first time. The project addressed a wide range of shared concerns such as improvements to transportation corridors, efforts to build the local economy, and new ways to manage the impacts of climate variability for this coastal Lake Erie community.

“The key to the success of Resilient Monroe was its collaborative foundation,” said Monroe Charter Township Supervisor **Alan Barron**. “We hope to continue this

momentum and keep working together in making positive changes.”

To enhance community resilience, the Monroe Community is focused on expanding and diversifying its local economy to attract and retain talented workers as well as boost tourism. The community is continuing efforts to expand and diversify its local energy portfolio along with local food production, processing and distribution. Additionally, the community is preparing for an increase in extreme weather events such as flooding and extended periods of extreme heat and/or drought.

“A number of ideas came out of this process that we can start integrating immediately into our day-to-day activities, like landscape standards and what we do with [stormwater] drainage,” said **Chris Khorey**, Monroe Charter Township planner. “Based on recommendations, we plan to make updates to the site design review process and to the zoning ordinance.”

Highlights of the Resilient Monroe process included an intensive three-day planning charrette focused on the Telegraph Road Corridor that runs through all three jurisdictions; heat and flooding vulnerability assessments specific to the Monroe Community; and a comprehensive 106-page Resource Atlas that highlights existing conditions, community trends and options for action (available at www.resilientmonroe.org/resourceatlas).

“Right from the start [of the Resilient Monroe planning process], some people did not appreciate the value of the information on climate variability,” said **Charlie Jackson**, a Monroe Charter Township planning commissioner. “But



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cover story

after the past few months, I think those people would think a little differently. Now, everyone is talking about the weather. I think this climate discussion was done very well, as far as how to get the conversation started.”

Ludington Community

On Lake Michigan, the four jurisdictions of the Ludington Community—including **Pere Marquette Charter** and **Hamlin Townships** (Mason Co.), the City of Ludington and Mason County—have also brought their planning commissions and elected officials together for the first time. In addition to the work on master plans, the Ludington Community used its multijurisdictional convening to conduct an intensive three-day planning charrette around a major economic driver within its community: a highway corridor connecting Ludington with the broader region (www.resilientmichigan.org/us10materials).

“It’s great to have a chance to work with neighboring units of government toward a common goal,” said **Paul Keson**, Pere Marquette Charter Township supervisor. “It is also an incredible opportunity for these entities to work together to shape a better community.”

According to **Hamlin Township** Supervisor **Nancy Vandervest**, public involvement is an important part of the Resilient Communities process. “Public participation is a key to the success of project,” Vandervest said. “We are encouraging citizens, local leaders and public officials from each jurisdiction to become involved in the planning process to help create a vision for the future of their community.”

In Ludington, project partner U-M is studying shoreline dynamics and developing alternative shoreline development scenarios that incorporate an understanding of the impacts of climate change on coastal resources. Part of the impetus for this research is to better understand how coastal communities use shoreline data to inform their planning process and policy decisions (*see sidebar at above right*).

Cultivating a resilient mindset

Michigan is a natural place to cultivate a resilient mindset, which is great news for our townships. We work hard. When we take a hit, we get back up. We still root for the Lions. We’re Michiganders. And we’re becoming even more resilient.

By **Whitney Waara**, Executive Director, **Matt Cowall**, Communications Director, and **Claire Karner**, Community Planner

Land Information Access Association (LIAA), Traverse City

For more information on the *Planning for Resilient Communities* project, visit www.resilientmichigan.org or www.liaa.org.

A focus on resilient coastal communities

Researchers from the University of Michigan and Michigan Technological University are contributing to and studying the *Resilient Coastal Communities* project. The overarching research goal is to find ways to help coastal localities improve Great Lakes shoreland area management through local master plans, regulations and infrastructure policies. The overarching policy goal is to help coastal localities promote economic vitality while minimizing risks to people and property and improving natural coastal habitats in nearshore areas.

A major aspect of this research is the development of scenario-based planning methods focused on managing Great Lakes shorelands. These scenarios will combine climate change uncertainties, with a range of potential shoreland area management options that encompass current practice (current zoning), desired practice (incorporating master plan policies not yet adopted), and best practice (incorporating additional and appropriate best-practice strategies).

Researchers are developing analytical methods to assess potential risks from lake level fluctuations, storm surge, flooding, lake temperature variations, and so on, along with corresponding potential fiscal, critical facilities, and environmental impacts. Training materials will be developed to convey the planning methods developed through this study to other coastal localities.



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