Planning for the Information Age

Editor's Note: To help Michigan regain its prosperity and thrive in the 21st century, Michigan State University's Land Policy Institute, People and Land initiative, with support from MTA and other organizations, launched the Pillars for Prosperity *initiative. By exploring the power of communities in preserving Michigan's future and helping rebuild Michigan's economy, we* can *work together to impact the future of this great state.*

The following article explores one Pillars for Prosperity *tenet: 21st-century technologies. This article aims to encourage and inspire townships to look at how changes to their planning policies, practices and ordinances can help to encourage economic growth in the New Economy.*

Visit www.michigantownships.org/MTNpillars.asp to see previous Pillars *articles, and look for additional articles in upcoming issues of* Michigan Township News.

The city of San Francisco is revising its building code to require new structures to be wired to charge electric cars, according to the Feb. 15, 2010, *New York Times*.

Now that's an extreme example of planning for technology and it's a long way—geographically and spiritually—from Michigan townships. But all municipalities will have to embrace, accommodate and use technology to thrive in this rapidly changing world.

It has become clear over the past two decades that a major economic shift is occurring in Michigan, and across the United States. The economy is changing from industry and manufacturing to a knowledge economy, based on technology and the management of information.

THE KNOWLEDGE ECONOMY: IT'S EVERYWHERE

How do you know your township is a part of the knowledge economy? Just look out the window. Whether you see an urban high rise, a suburban boulevard or a pasture, you're seeing the knowledge economy.

Ask the local chamber of commerce. They'll tell you that they have far more service businesses than manufacturers. Retailers

are reducing their physical storefronts and expanding their digital presence online. Between telecommuting and home-based businesses, the U.S. Census describes a day in the not-too-distant future when more than 20 percent of Americans will work at home.

The knowledge economy doesn't manufacture things, so it's less dependent on location—on factories, railways and ports. It produces ideas and offers services. That means it can be located anywhere and its infrastructure is broadband cables and over-the-air data transmission.

The knowledge workforce—often referred to as the creative class—currently makes up 30 percent of the U.S. workforce and 50 percent of the wages earned. It consists of scientists, engineers, managers, innovators and people in research and development, as well as artists, writers and musicians. These people are attracted to communities or places with an outstanding quality of life.

PLANNING FOR THE FUTURE

Townships can support and assist in economic development and planning that promotes a knowledge economy. Townships of all types—urban, suburban and rural—and sizes can make changes to their planning and zoning documents and policies, including the:

- Master plan
- Zoning ordinance
- Development regulations and guidelines
- Plan review and permitting
- Master right-of-way plan

This isn't just about planning for technology businesses and infrastructure; it's about using technology to improve administrative productivity and regulate thoroughly and fairly.

Community master plan

A community master plan—also known as a comprehensive plan, land use plan or growth management plan—provides the basis for a community's zoning ordinance and the rationale and statutory basis upon which local land use and zoning decisions are made.

But it can be more than that.

In its master plan, a community expresses the philosophies and principles that guide all its land use decisions. A commitment to accommodating the changing economy and resulting technology can assure businesses, residents and civic leaders, and galvanize township staff and volunteers. It can also enable the community to better take advantage of state and county incentives, programs and services.

The most effective ways to incorporate these ideas into the master plan is through the formulation of goals, objectives and strategies, and a future land use plan. Given the far-reaching effects technology has on everyday life, townships should also consider developing a telecommunications strategic plan or a more general plan that addresses technology and how technology can be utilized to improve quality of life. A "technology plan" can be incorporated into a community master plan or stand alone.

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A township may wish to consider a variation on the following as a goal:

"We will enhance the ability of the community to attract and retain technology-based businesses and employees by providing programs and services that make the community a desirable place to live, work and do business."

Four objectives can support that goal:

- **Promote access to information and communications technology.** Businesses and homes must have high-speed broadband Internet access. It helps high-tech businesses communicate, fuels retail businesses as they move their sales online, and is a lifeline for home-based businesses and telecommuters.
- **Develop a workforce with the technical skills and knowledge** required by businesses that work in and with technology, and prepare those workers to hold quality jobs in current growth industries and emerging economic sectors. A master plan isn't just about land use. Wise townships will use it as the foundation for supporting needed technological skills and knowledge for the community's existing and future workforce.
- **Enhance the community's quality of life** by providing the housing, attractions, infrastructure and services needed to make the community a desirable place to live, work and play.
- **Provide flexible, responsive and high-quality public services** that allow businesses to operate efficiently in a relatively predictable environment. When appropriate, provide incentives and make access to services and information available to the global market.

Future land use plan

Achieving the right mix of land uses within a community has always been challenging because of the implications it can have on the tax base and public services, and its corresponding effects on overall quality of life. In today's knowledge economy, townships may wish to consider policy recommendations for different types of land use, such as:

Residential

- The master plan should encourage fewer regulatory controls on home occupations to ensure their continued expansion.
- Encourage classifying home occupations as a permitted use in residential districts, subject to a set of reasonable performance standards, to limit potential impacts to neighborhood character.
- Plan for mixed-use areas that include residential, commercial and office land uses.
- Encourage all new residential development to be broadband-ready.

Commercial

- Monitor local and regional commercial market and land use trends—such as vacancies, emerging and/or declining business sectors, use of e-commerce and technology in business operations—and adjust the location and overall proportion of land designated as commercial.
- Expand the types of uses allowed in commercial areas with a particular focus on including businesses associated with the knowledge economy. Appropriate uses could include technology-based retail or service enterprises that have substantial in-person sales.

Office

- Expand the range of uses recommended for office areas (e.g. telecommunications and technology-based businesses involved with software development, technology support, consultants and Internet services), with particular emphasis on businesses associated with the knowledge economy.
- Promote adaptive reuse of existing buildings to include the latest technologies to support new and expanding knowledge economy businesses.
- Strategically plan office land use near urban, residential, commercial and natural areas to create an environment that promotes improved work/life balance.

Industrial

- Encourage the provision of advanced technology infrastructure (e.g. broadband) for all portions of a redeveloped industrial site.
- Support flexible zoning ordinance provisions to encourage rapid redevelopment of industrial sites.
- Designate low-intensity industrial land uses near natural features, but only if zoning provisions are in place that permit clustering, flexible site layout and natural feature protection.

Research and development (R&D)

- Ensure current technology infrastructure is available to support the attraction and expansion of R&D businesses.
- Consider commingling limited commercial, office and residential uses in the research and development designation.

Township responds to business needs by revamping zoning ordinance

When automotive parts manufacturer Aisin sought a test-track location, **Handy Township** (Livingston Co.) responded by creating a research and development (R&D) district in its zoning ordinance for the 800-acre facility, according to Supervisor **Henry Vaupel**.

The language is flexible and broad, excluding most manufacturing and subjecting all developments to site plan review. General agriculture is a permitted use, which preserves the township's rural feel—a quality valued as much by R&D users as by residents.

Mixed

- Consider revising the zoning ordinance to provide flexible, performance-based zoning standards for mixed-use development.
- Promote a complementary mix of land uses close together and within the same building.
- Use form-based zoning to provide a physical vision to guide development of mixed-use districts.

Zoning ordinance

To remain relevant, a township's zoning ordinance should be flexible and supportive, and should encourage the deployment of technology infrastructure necessary to foster businesses participating in the knowledge economy and to enhance overall quality of life. The prosperity of a community is now more dependent on how effectively it can respond to rapid advances in technology, globalization and the shift to the knowledge economy.

Conventional zoning has long been used to protect the "health, safety and general welfare" of the community by controlling the land uses allowed in a particular district. However, the rigidity of conventional zoning may not respond well to economic, social, environmental, cultural and real estate market changes. Alternative zoning and development techniques may better accomplish the goals of the community master plan. These may include:

- Planned unit development (PUD)
- Cluster development

- Form-based codes
- Overlay zoning
- Historic district ordinances

The following are some thought-provoking recommendations townships may wish to consider for standard zoning classifications: residential, commercial, office and industrial.

Residential

Growth in home occupations can affect neighborhoods, and some townships may allow home occupations by right. In all cases, townships will need to regulate physical appearance of dwellings and overall residential character, traffic generation/flow, parking, and nuisances such as noise, light and odors.

In suburban neighborhoods, more so than in urban ones, larger lots may allow people to add on to accommodate their business. Thus, townships may consider requiring that:

- The home occupation shall utilize no more than 25 percent of the total floor area of any one story of the residential structure used for such home occupation.
- No alterations or additions that will change the residential character of the structure shall be permitted to accommodate a home occupation.

Even today, rural homes, with larger lots or acreage, host businesses that generate outdoor activity. Recommendations include:

- Minimum lot size of 10 acres. Those smaller lots must meet the requirements of a standard home occupation.
- Permanent vegetative buffers around parking, storage or other areas.
- Outside storage, parking and work areas set back a minimum of 50 feet from property lines and limited in combination to one acre or 5 percent of the total property, whichever is less.
- No more than 20 one-way vehicle trips a day.

Commercial

As retail businesses move their sales online, they may value industrial- and warehouse-style spaces. Then again, home-based retailers may grow into storefront sales. The best approach may be to incorporate flexibility and transparency into the township's zoning ordinance. Communities may also:

- Solicit input from business organizations on how local zoning can be made more transparent and responsive to the technology-based businesses.
- Rezone commercial property.
- Amend light industrial or office zoning districts to allow commercial uses as a permitted or special/conditional use.
- Classify commercial uses in light industrial or office districts as permitted by right.

Office

Businesses that adopt technology-enabled practices such as telecommuting, job sharing and alternative work schedules may require less building space than currently found in the market. At the same time, adaptive reuse of former industrial buildings makes it easy to install technology equipment while providing a unique environment for creative class workers. Townships can:

- Survey businesses to determine to what degree they are using these technology-enabled business practices.
- Encourage these practices to help reduce peak on-site parking demand and to reduce rush hour traffic.
- Include office use as a permitted use, or special/conditional use, in some industrial districts.

Industrial

An oversupply of industrial space will likely result as the economy shifts from manufacturing to knowledge. Solutions for townships struggling with this situation include:

- Rezoning—Downgrade zoning to one or several less intensive districts. Allow technology-based, emerging-sector businesses and compatible R&D activity as principal permitted uses.
- Overlay zoning—Adopt overlay zones to promote redevelopment of abandoned or unused industrial sites. Include additional development standards to control the cohesiveness and maintain the aesthetic appeal of the development. Enable flexible use of spaces.
- Sub-area plan—Establish a sub-area development plan for abandoned industrial sites and/or unused industrial land and integrate it with zoning ordinance provisions by recommending various land use districts, design standards, development regulations and other policies.
- Designate former or unused industrial sites as PUD districts in the zoning ordinance and master plan.

Supplemental Regulations

A zoning ordinance also contains a section devoted to supplemental regulations (also referred to as general provisions), which contain standards that apply to all uses, most notably for those structures that deliver infrastructure.

Some supplemental regulations recommendations include:

- Underground infrastructure should not require supplemental regulations.
- Adopt reasonable standards to limit potential impacts of above-ground structures.
- Adopt standards in the zoning ordinance that require camouflaging or screening of overhead structures. Administratively review small overhead infrastructure to promptly expand the availability of wireless technology.
- Ensure that a telecommunications ordinance contains flexible regulations that promote the efficient and orderly deployment of telecommunications towers and related infrastructure.
- Encourage administrative review of collocations and other minor changes to telecommunications facilities.

Development regulations and guidelines

Many knowledge-economy and emerging-sector industry businesses want specific technology and building components incorporated into their building and site. The availability of these components can influence site selection.

Access to utilities, including telecommunication facilities, is a requirement whether constructing a new building or retrofitting an existing one. Development regulations and guidelines would do well to specify where telecommunications lines reach a site and where they are serviced, and to specify inter-building distribution systems.

Building consideration and types

Technology-related building components that could be addressed by development regulations or guidelines range from simple to complex and expensive. Of course, business functions will drive the need for specific components. Township officials should educate themselves on these components prior to considering their inclusion in development regulations or guidelines. For example:

- High-speed telecommunication/fiber optics
- Higher ceiling heights
- High floor load capacity
- Power redundancy
- Equipment rooms
- Telecommunications space

- Raised flooring
- Advanced fire protection systems and 24/7 security
- Flexible work stations with wireless connections

Plan review and permitting

Here's where the focus shifts from the spaces and buildings to the regulators themselves. Townships can use technology to expand public involvement, make government more transparent, increase productivity, and assure consistent and fair enforcement.

With little capital investment in technology, local governments can make incremental improvements to plan review and permitting by offering the necessary forms and related information online, including but not limited to the following:

- Applications, requirements and standards
- Overview of plan review and permitting processes
- Fee schedule
- Contact information
- Relevant links to other required permits and/or regulations

At the next price point, there are several automated permit management systems that track information throughout the life cycle of the permit, from application through office evaluation, field inspection information, cost details and action taken.

Mobile computing gives inspectors access to information that is stored in their office while they are out in the field. This allows ▶

Technology helps make township planning information more accessible

Your township's master plan review may be several years away, but the township can begin using technology now in its own operations. In 2009, **Bloomfield Charter Township** (Oakland Co.) implemented the Web-based *Clearzoning* zoning code system. It presents information in a concise, well-illustrated, user-friendly format. Available as a PDF document, it uses hyperlinks to connect related concepts and standards.

"By simply clicking on one page of an online ordinance instead of thumbing through many references addressing multiple zoning districts, a developer can, for example, determine where a new office building could be built," the township's Web site says. "Or, for individuals, a homeowner could find out how large an addition can be. Then, with one more click, the setback, area and height regulations for that district are displayed in both text and graphic form."

More simply, **Springfield Charter Township** (Oakland Co.) offers all its planning instructions and application forms online, as well as building, electrical, mechanical, plumbing and sign permit application forms.

inspections to be assigned, reassigned, rescheduled or canceled during the course of a given day. By providing real-time access to this information, communities can maximize inspector performance by optimizing hours in the field and reducing miles logged. Inspectors who spot problem sites can immediately find out if a violation has been issued and create one on site.

Master right-of-way plan

Considering the central role that transportation networks play in the history and development of most communities, a master right-of-way plan is a crucial community development resource. Since townships do not have authority over any roads, it is important for township officials to know what agencies—state, counties and road commissions—have jurisdiction over which road rights-of-way within their boundaries.

A township may wish to assertively pursue involvement in the respective jurisdictional authority's right-of-way planning process. This participation can be more effective by working in concert with neighboring communities. Right-of-way planning frequently involves addressing the concerns and interests of multiple government bodies, private property owners and utility providers and thus should be approached from a regional perspective.

A master right-of-way plan should include:

- Background studies
- Existing right-of-way conditions
- Goals and objectives
- Right-of-way width determination criteria
- Build-out analysis
- Future right-of-way plan

LEADERS IN THE KNOWLEDGE ECONOMY

To use advances in technology to their advantage and position themselves as leaders in the knowledge economy, communities need to support the availability of technology. Reviewing and revising the township's planning policies and ordinances can help your community become more attractive as business locations for emerging-sector companies and employees—breathing life back into the local and state economy, and helping Michigan regain its traction on the road back to prosperity. ■

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For additional resources, check out Carlisle/Wortman's Technology Planning Toolkit, commissioned by Oakland County. The toolkit can serve as a roadmap toward a diversified, Information Age economy for Michigan townships. Visit www.oakgov.com (search for "Technology Planning Toolkit") to access the complete document.