

Sustainable Community Handbook

Since 1969, the Michigan State University, Center for Urban Affairs (CUA) has helped individuals and organizations address the challenges of urban communities. The **Michigan Partnership for Economic Development Assistance (MP/EDA)** was established by CUA in 1987 with support of the U. S. Department of Commerce, Economic Development Administration. The MP/EDA is committed to sustainable development efforts through research, training, capacity building and technical assistance to economic development agencies and community-based organizations. The MP/EDA is led by Dr. Rex LaMore and Mr. John Melcher.

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Introduction

This manual is meant to help you and your community develop a local vision and action plan toward a sustainable community. It includes practical methods and examples to help integrate "the three Es" -- economy, environment, and equity as we grow.

We encourage you to share it with others involved in...

- Regional, municipal, and township planners, commissions, councils, and boards
- Chambers of Commerce and economic development organizations
- Neighborhood organizations, civic leaders, and faith-based institutions
- Local businesses, schools, Community Development Corporations, developers, etc.

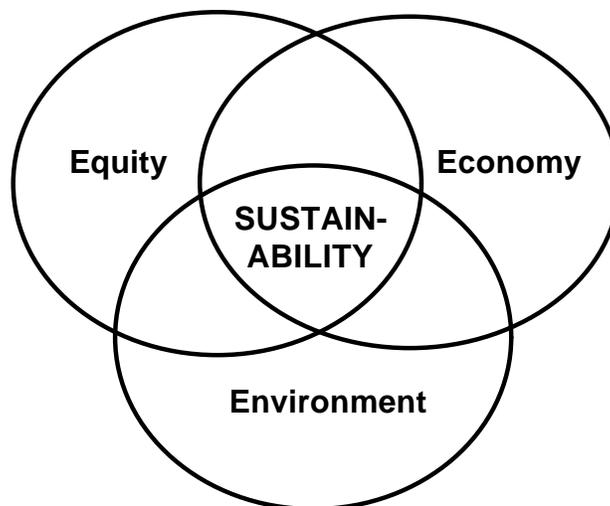
Just like your community, this handbook is a work-in-progress. We'd like your comments! For more information, contact Michigan State University, Center for Urban Affairs Community and Economic Development Program, 1801 West Main Street, Lansing, MI 48915-1097, (517) 353-9555.

Sustainability = Long-Term Livability

Sustainability refers to long-term livability of our communities. A vision of sustainable development is often articulated in the following statement:

*"Development which allows people to meet the needs of the present without compromising the ability of future generations to meet their own needs."*¹

Both civic leaders and economic developers have begun to use the concept of sustainability. Sustainable development embraces the idea that we can and should achieve economic opportunity, social equality, and a healthy environment together. Many communities have discovered that they don't have to sacrifice quality of life to achieve economic prosperity. Indeed, a high quality of life is good for business! The following diagram illustrates the connectedness of inherent in a vision of sustainability²:



¹ As defined by the United Nation's World Commission on Environment and Development (UNWCED, 1987)

² Hancock, Trevor. "Healthy Sustainable Communities: Concept, Fledgling Practice, and Implications for Governance." in Roseland, Mark ed. (1997) *Eco-City Dimensions: Healthy Community, Healthy Planet*. New Haven CT. New Society Publishers.

Why is sustainability important?

Why is quality of life important? Why is health important? Why are safety, affordability, equity, freedom, peace, culture, and people important? Sustainability is about realizing what we value -- rediscovering it and actualizing it, without sacrificing our children's ability to do the same. It's about respecting each other, our planet, and future generations -- being responsible and mindful together, in community.

The Good, the Bad, and the...

As with any topic, we can look at the bright side, at the dark side, at all sides, and/or the inside! With issues like quality of life, there are at least as many sides as there are people in the room. We can find evidence to support a bleak picture if we don't change our current over-consumptive and polluting habits -- one of global warming, ozone depletion, acid rain, polluted rivers, dirty air, toxic waste, failing economies, rising debt, increasing poverty, loss of farmland, and energy shortages. Many would argue that this is where we are headed, quickly.

Where are we headed?

In 1995, Clifford Cobb, Ted Halstead and Jonathan Rowe proposed an alternative to our traditional measurement of progress: GNP. Their Genuine Progress Indicator is intended to reflect changes in quality of life over time.

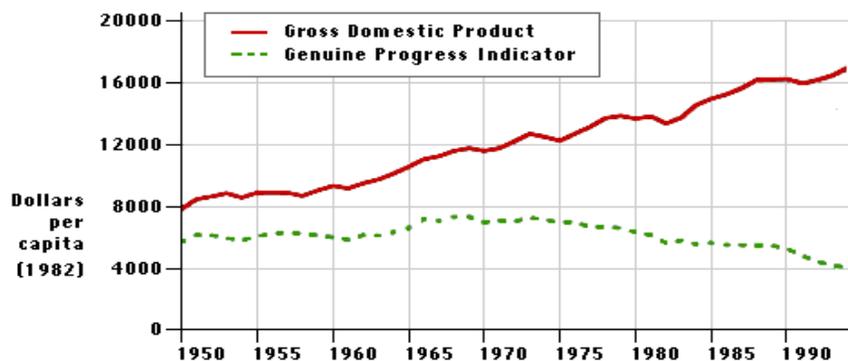
Where are we headed...

Locally?

According to the 1995 Future Trend Report by the Michigan Society of Planning Officials, Michigan's population will increase by about 1 million people (+10% between 1990 and 2020) causing an estimated 63-87% increase in urbanized land area. At current trends, as much land will be converted for 1.1 million more people as existed in 1978 for 9 million people. At the same time, population in many of our urban centers is decreasing.

Globally?

If we could shrink the earth's population to a village of 100 people, 6 people would possess 59% of the world's wealth, and all 6 would be from the United States.¹ If we embrace a concept of global health, world peace, and equity, many feel we should reduce the size of our ecological footprint -- the amount of land estimated to sustain our level of consumption. At US levels of consumption, it would take 2 more planets to support our current global population.



Source: Cobb, Halstead, Rowe; Genuine Progress Indicator

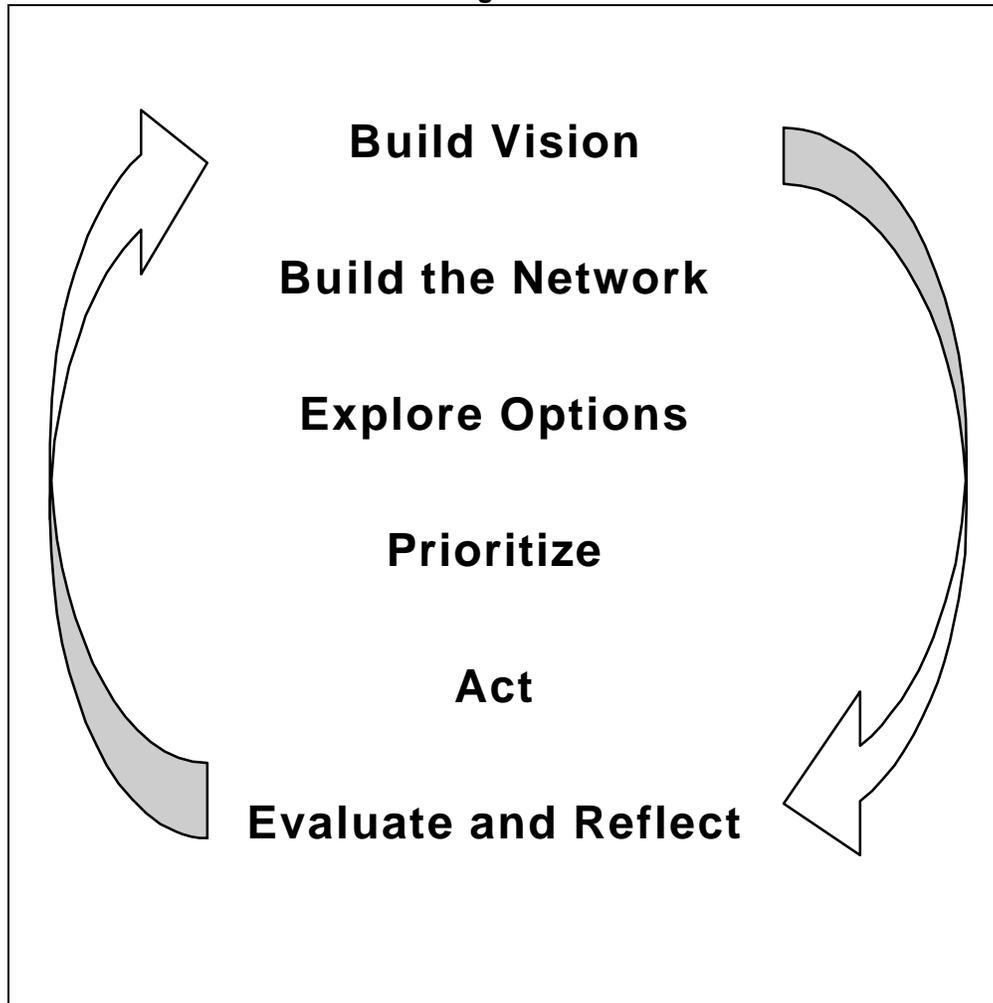
While there appears to be reason for concern, we can also find evidence to support a very bright future with enough for everyone, good jobs, safe streets, leisure time, equity, rich cultural opportunities, steadily improving air and water quality, and healthy and involved citizens. The challenge of a sustainable vision is being honest about the present while realizing our potential to act... "being the change we wish to see," as Gandhi said.

We must also be willing to take responsibility and action now. This is how change occurs. Each of our actions, adding together to create the whole. Our shared visions, dreams, and collective actions create the world. What if we learned how to do this better -- in community?

A Community Process

This model serves as the framework for much of this manual. It describes the community development process:

Figure 1



Visioning, networking, exploring options, planning, acting, and reflecting are interrelated, ongoing processes. Each is important to our success!

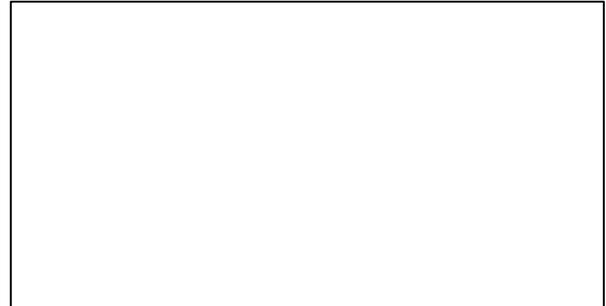
<i>When we...</i>	<i>We gain...</i>
Build Vision	Direction and meaning
Network	People and organizations that can make a difference
Explore Options	Ideas and actions which lead to success
Prioritize	Focus, synergy, and alignment
Act	The opportunity to make a difference now
Evaluate and Reflect	Learning opportunities

Building Vision

A vibrant vision can serve as a creative force for community transformation! Ideally, visioning is an ongoing process which reaches out to all citizens and reaches in to their hearts and minds. When residents feel they are a part of the community vision, they are more likely to help actualize it.

The following exercise can be used in city planning efforts, civic group/neighborhood meetings, or in classrooms to begin to paint a picture of what we are, what we value and what we want to be. The exercise below will help build a "healthy" understanding of the diversity, quality of life, and livability in your community or region. The results will broaden perspectives and help determine what you and the community want to sustain or improve. Later exercises will help you translate this vision into policies, actions, and indicators of success.

Many of us have heard of "learning organizations." These exercises can help us build a learning community. This learning takes time but its importance can not be overemphasized. As we discover and focus upon our shared values and visions, collaboration and participation will be much more likely. Vision building can be a creative way to kick off a livable community initiative in your area.



Exercise

How do we define quality of life?

How do you describe your community?

What makes your community livable?

What does quality of life mean to you?

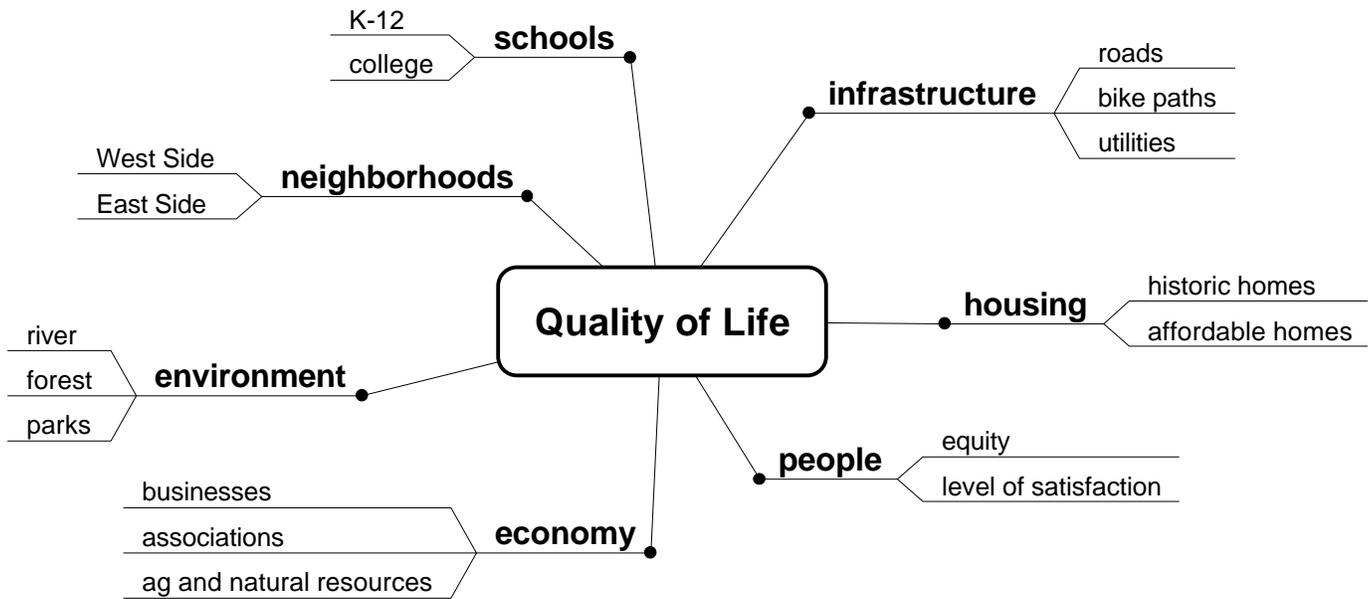
What do you love about your community?

What do you want to sustain or improve?

Option

Individually, or with your group, draw a mental map of your community. For more information on "mind maps," consult <http://world.std.com/~emagic/mindmap.html> for information on mind-mapping.

Figure 2



Discussion

Share your ideas, lists, and maps with each other. Did your picture of the community expand as others shared their lists or maps?

How might your thinking influence growth and development priorities in your community?

Synthesizing a Vision

It may be helpful to organize your lists into several categories. The following list emerged from a series of community conversation in Tucson, Arizona. Here how they organized their list and summarized their vision...

Table 1³

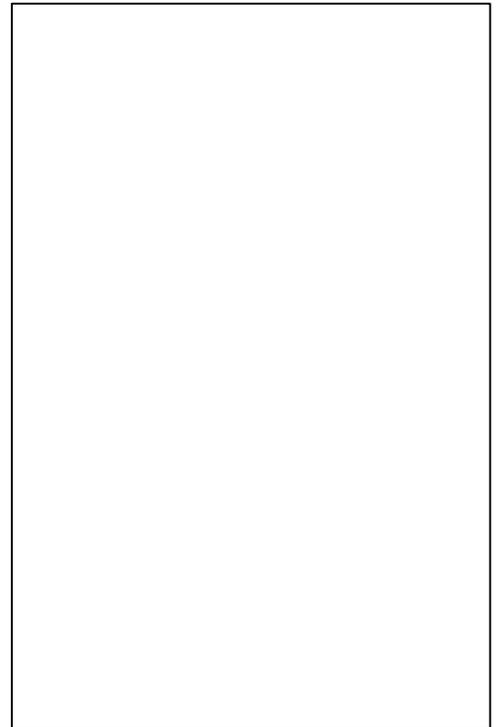
<p>Respected Historic & Cultural Resources</p> <p>- preservation and celebration of local landmarks, buildings, neighborhoods, archeological treasures, open spaces, cultures, and traditions that make Tucson unique.</p>	<p>People-Oriented Neighborhoods</p> <p>- designing new neighborhoods and investing in old neighborhoods to promote a mix of commercial and residential uses, a pedestrian focus, landscaping and aesthetics, and interaction among residents.</p>	<p>Better Alternatives to Automobile Transportation</p> <p>- improved public transportation system, bicycle and pedestrian friendly streets, improved roadways (landscape, lighting, sidewalks, bus stops), and promotion of alternatives to the automobile.</p>
<p>Engaged Community & Responsive Government</p> <p>involvement of citizens in the community, volunteering, neighborhood participation, responsiveness of government organizations to citizen input, and the connection between government and the people</p>	<p>Abundant Urban Green Space & Recreation Areas</p> <p>recreation and green space within the city, including neighborhood and regional parks, common space, community gardens, bike and walking paths, linear and river parks, trees, and urban landscaping</p>	<p>Infill & Reinvestment, Not Urban Sprawl</p> <p>well-planned growth, the management of sprawl, and development in the city's core, rather than on the periphery</p>
<p>Reduced Poverty & Greater Equality of Opportunity</p> <p>fair distribution of resources, creating opportunities to overcome poverty, and social and economic inequality</p>	<p>Protected Natural Desert Environment</p> <p>protection of the eco-system and protection of washes, hillsides, open space, and wildlife</p>	<p>Safe Neighborhoods</p> <p>how safe people feel in their neighborhoods, crime, policing, and risk perceptions</p>
<p>Excellent Public Education</p> <p>quality of education at all levels - youth to adult, as well as vocational, life skills, cultural, and civic training</p>	<p>Quality Job Training</p> <p>education, training, and skill development that lead to high quality, living wage jobs</p>	<p>Caring, Healthy Families & Youth</p> <p>opportunities, services, and conditions that support families and youth</p>
<p>Strong Local Businesses</p> <p>the local economy, particularly small area-based businesses</p>	<p>Better Paying Jobs</p> <p>wages, job quality, job diversity, and an improved standard of living</p>	<p>Clean Air and Quality Water</p> <p>reduced pollution and provision of clean, potable water</p>
<p>Efficient Use of Natural Resources</p> <p>conservation of resources and use of sustainable energy sources</p>	<p>Successful Downtown</p> <p>cultural and commercial aspects of the city center</p>	

³ Livable Tucson Vision Program <http://www.ci.tucson.az.us/lv-toc.html>

Building the Network

Vision-building activities will "build your network." A **network** or **coalition** may be a useful way of thinking about your effort. A network can be more open than an organization or team. Its structure allows multiple teams, individuals, and organizations to participate and share in the success. Networks provide a more flexible structure that supports a community-wide effort. People are busy -- particularly some of those you'd like in your network. Most of us are wary of more meetings. A network allows those to participate according to their time, passions, interests, and skills. They may, however, be attracted to or called to a particular project or role from time to time. Some teams fail when one or two key leaders drop out, networks are more fluid and allow people to come and go.

Supporting a network is similar to supporting a traditional work group. Good communication, open participation, diversity, mutual respect, information sharing and transparency, flexibility, shared leadership, and shared success are all key.



Exercise

Who to invite?

How does the community define itself (geographically, socially, etc.)?

Does your group represent a neighborhood, a city, a county, a region, and/or social group (African Americans, women, senior citizens, etc.)?

Once you have discussed "What community?" you may wish to brainstorm a list of individuals and/or organizations that share an interest in joining your efforts.

Thinking about your network....

Organizations/Individuals	Suggested Groups/Contacts
A broad spectrum of citizens, representing the diversity of the community	
Youth	
Media	
Government boards, agencies, or departments	
Foundations	
Neighborhood organizations	
Faith-based institutions	
Racial/Ethnic Groups	
Schools	
Higher Education & Extension	
Banks and Credit Unions	
Realtors / Home builders	
Nonprofit organizations	
Environmental organizations	
Other Businesses	
Other:	

Dialogue Does It!

An understanding of dialogue is helpful at all stages -- from identifying issues to developing sophisticated action plans. The principles of dialogue help when a network begins to grow in diversity. Dialogue helps networks remain open to new ideas, connections, and leadership. Dialogue is about ***learning how to think in community***. The following chart contrasts dialogue and debate.

Dialogue	Debate
To learn and explore	To tell, sell, persuade
To build shared meaning	To gain agreement on one meaning
To gain multiple perspectives	To evaluate and select the best
To uncover and examine assumptions	To justify and defend assumptions

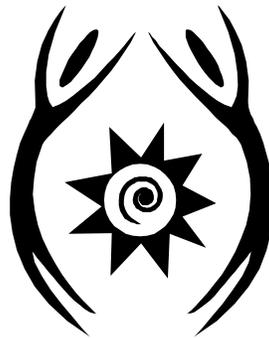
There are many different types and styles of dialogue. Choose what works for you. Some "talking circles" set rules such as...

- 1) pause ten seconds between speakers
- 2) pass a speaking stick (or pen) -- you can only talk when you have the pen
- 3) provide each person with the opportunity to speak once before speaking again

Some circles have a totally open agenda and allow the conversation to emerge. Others are more structured and focused. The Study Circles Resource Center offers guides to assist with community-wide dialogues on topics related to livability such as diversity, healthy neighborhoods, and smart growth. See more information at www.studycircles.org.

The keys to good dialogue are listening, learning, and respect. These qualities help us discover our diversity, tap creativity, and turn differences into strengths. A livable community embraces new ideas and old ideas, broad visions and narrow visions, collaboration and competition. The challenge of strong organizations, sustainable networks, and healthy communities is to not just accommodate -- but embrace diversity (multiple styles of learning, doing, and being).

Dialogue is people truly listening to people truly talking.⁴



⁴ Consultant John Adams suggested this simple way to describe dialogue, inspired by fellow consultant Harrison Owen described in <http://www.co-intelligence.org/P-dialogue.html> (downloaded 3/2001).

Explore Options

Exploring options includes two separate and very different processes. One is a more open, brainstorming processes. The other, which is equally important is the prioritization and selection process. Brainstorming is a more open, imaginative, and divergent process. Prioritization, which follows is a whittling down, convergent process. Our attempts to combine these processes sometime gets us into trouble. In doing so, we may attempt to judge or evaluate each idea which comes up. This stifles creativity. It's much better during the exploration phase to allow all ideas to surface, suspend judgement, and think expansively. There are no wrong ideas during this phase.



Exercise

Part 1: Brainstorm Options

Involve your network and others in your community in a dialogue about potential actions and projects which address your community vision, desires, and needs.

Brainstorm a list of ideas.

Later, sort them into common themes or characteristics and brainstorm some more.

How do these actions/projects relate to other goals/visions in the community?

Note: After you have completed your dialogue, feel free to supplement your ideas with the suggestions listed in "Project Ideas" and the Attachments Section.

For example, using the Tucson example above:

The community vision included a focus on **People-Oriented Neighborhoods** defined as "*designing new neighborhoods and investing in old neighborhoods to promote a mix of commercial and residential uses, a pedestrian focus, landscaping and aesthetics, and interaction among residents.*"

The community came up with these **Potential Actions:**

Individual

- Take pride in your home
- Become friends with your neighbors
- Join or create a neighborhood association
- Utilize public parks, neighborhoods and recreation centers, and public pools

Community

- Develop a plan for a mixed commercial/residential block
- Perform 4 to 3 lane conversions/bike lane additions and traffic calming improvements on suitable roads.

On there website, <http://www.ci.tucson.az.us/lv-toc.html>, a "featured project" is listed which relates to the general action agenda.

Project Ideas

Government

Concerned and responsive governments are involved with creating and maintaining quality of life, livability and sustainability. Government can be helpful engaging and supporting citizens in the discussion and visioning processes. Governments can also ensure that departments, committees, policies, and budgets align with community vision. Again, the Tucson example illustrates how various City departments are collaborating to support the community goals and vision (see <http://www.ci.tucson.az.us/lv-toc.html>). Many governments have also found success by moving beyond their jurisdictions. Regional issues such as watershed protection, waste reduction, and economic development cross jurisdictional boundaries and are more effectively addressed at a regional level. Some communities are pooling tax resources and building inter-jurisdictional authorities or coalitions of business, civic, and government leaders in order to address regional challenges and opportunities.



Land use

Community visioning helps clarify future development and preservation goals. In some communities, neighborhoods are empowered to control land use decisions. Others have started community land trusts, setting aside money to purchase parks or threatened natural areas. Planning and zoning decisions have an enormous impact on the shape of the landscape. Some communities are integrating open space preservation into their master plans.



Other project ideas include:

- ❑ Perform an asset or natural resources inventory of your neighborhood or community
- ❑ Use compact development and conservation design of subdivisions
- ❑ Develop clusters and keep the clusters small
- ❑ Place higher density housing near commercial centers, transit lines, and parks
- ❑ Use regional, neighborhood, site, and building-scale practices to make density livable
- ❑ Mix land uses and include civic uses in the mix
- ❑ Make shopping centers and business parks into all-purpose activity centers
- ❑ Concentrate commercial development in compact centers or districts (rather than strips)
- ❑ Help residents visualize alternative growth scenarios through GIS and other planning tools such as Smart Places or Community Viz.

Citizen planners

Often, those responsible for making “development decisions” may have little experience with smart growth or sustainable development. The “Citizen planner” project provides trainings to increase planning knowledge and capacity of elected or appointed citizens. When coupled with a revamping of the development review process, better outcomes for the community and the developers often result. When plans are reviewed during the design process – before the lines are drawn and the public hearing process begin -- there are opportunities to modify and creatively address concerns and opportunities. An effort is made to align the projects with community goals. This saves time and money for all involved.

Economic development

Communities often look at economic development as an end in itself. Others seek a more expanded view, which might include "build diverse, prosperous, and self-reliant economies that provide good jobs for all, while at the same time encouraging preservation of natural resources, character, history, and culture. Communities may wish to evaluate income and expenditures and plug "leaks" in the local economy (see: www.msu.edu/~cua/projects/CIEM%20Project.htm or call the Center for Urban Affairs for more information on this). Other communities may wish to explore opportunities to promote sustainable production and use of energy resources with local utilities. Many municipalities and regions have negotiated green power and conservation financing in their franchise agreements with electricity suppliers.



It may helpful to think about the types of businesses and jobs we seek to retain, develop, or attract in our community. The principles of Natural Capitalism (www.natcap.org) can be helpful here. Related "eco-friendly business opportunities can be found in agriculture, tourism, manufacturing, and information technology. Architect, William McDonough uses eco-effective approaches with companies like Herman Miller and Ford Motor Company seeking to solve rather than alleviate the problems that industry makes...

"I see environmentally intelligent design as being driven by three principles, which I've borrowed from nature: Remember that waste equals food. Use current solar income. Respect diversity. I apply these principles to everything I design - from buildings to shoes to plumbing fixtures. We used these principles in the design of the Miller SQA factory in Michigan. We positioned the building near a field on which we created a series of wetlands. The building's storm water - in other words, the waste - travels through these wetlands, which process and purify it. By the time the water enters the nearby Black River, it's clean. Waste equals food. The second principle is "use current solar income." We designed the Miller SQA factory with roof monitors, skylights, and sloped glazing, so that the entire building is drenched in light. Any necessary artificial light is controlled by photo sensors that make sure it doesn't duplicate the natural light. This not only reduces energy consumption - it also saves money." (Fast Company interview, June, 1998 at <http://www3.fastcompany.com/online/15/greendean.html>)

Transforming existing business practices

The individual decisions that we make everyday in our homes, schools, offices, and factories add up to huge impacts. These impacts can contribute to or detract from quality of life in a community. Consider purchasing decisions or policies which incorporate life-cycle costs (including maintenance, and operation costs) as well as environmental and educational values. Avoid expensive repairs by performing regular maintenance and reinvesting in infrastructure at a "sustainable rate" (equal to or above the rate of the depreciation).

Transportation-efficient communities

Transportation offers opportunities to address economic, environmental, and social improvements. Some regions are pursuing "walkable" communities in an effort to reduce congestion, "curb" parking demands, and improve health and safety. Some businesses and governments offer free bus passes to their employees, encourage telecommuting (allow employees to work at home), and encourage alternative transportation options (biking, walking, ridesharing, public transport, etc.). Some businesses assist workers in purchasing homes close to work – a strategy which aligns well with downtown revitalization (see www.walkable.org/). Involve students in a walkable community audit (Is it easy to walk, skate, or bike to school? How can I improve walkability?).

Education

Sustainability and livability is fertile ground for teachers, students, administrators, and parents. Sustainable-related projects provide a "natural opportunity" to integrate science, social studies, math, language arts, art, and other subjects. For example, a school greenhouse, garden, or landscape provides the opportunity to learn about biology, chemistry, food systems, agricultural heritage, etc. Students might design, plant, propagate, process, package, and eventually sell their own produce. A community, neighborhood, or block mapping exercise may help familiarize youth with their neighborhood and better understand their community. There are literally hundreds of organizations are devoted to environmental and sustainability related education and curricula. See the Resources section for a few links.



Some communities have invested heavily in job training to meet the needs of the surrounding community and local businesses. Others have reserved land for school sites and donated them if necessary to attract new schools. Consider leveraging private funding for schools and other public projects (shared spaces, roads, infrastructure, etc.).

Get students involved in visioning and action projects. At Oakland Community College, Instructor Debra Rowe trains her students to be "positive change agents." The class holds a Positive Futures Fair, where students share their visions with the larger community. At Michigan State University, the University Committee for a Sustainable Campus has launched a speakers series and campus energy and eco-audit (see www.ecofoot.msu.edu).

A Community Leadership Tool⁵

Below is an introduction to The Decision Making Matrix, found in the following "Prioritization" exercise on the next page.

Communities are shaped by decisions made over decades. Though some of these choices are made with full knowledge of possible consequences, those made with insufficient thought and information could leave communities with unfortunate and unanticipated outcomes—some felt immediately, some delayed many years. This new tool supports better informed decisions.

Community leaders faced with an important decision can use it to discover many aspects of a proposed action that might otherwise be missed. It will help them think about aspects that are often left out of decision making (for instance those that influence quality-of-life) in addition to the financial and technical information normally considered in community decisions. This tool might be used to decide for or against a proposed action. Or, discussions that take place during its use might lead to creative changes to the proposed action that make it more compatible with the community, its economy, and the environment.

This tool is most effective when everyone potentially affected by, and knowledgeable about, the proposed action participates in its use. It is not particularly useful when only like-minded people use it. The object of using this tool is not simply to fill in each blank, rather it is to involve the community and

⁵ Kinsely, 1997. **Michael Kinsley** is a Research Scholar and Consultant. Michael co-founded Rocky Mountain Institute's Economic Renewal program in 1982. As the Institute's senior practitioner of techniques for creating sustainable local economies, he has provided economic development planning, facilitation, and training to communities in 40 states and three foreign countries. As a Pitkin County (Colorado) Commissioner (1975–85) he pioneered programs in affordable housing, environmental and growth management, fiscal efficiency, and economic stability

its leaders in a complete and meaningful discussion about an important decision. Though this tool does not guarantee that resulting actions will be sustainable, it will help evaluate options in a more comprehensive way. This tool does not result in a numerical score by which a decision can be made. Rather it displays the positive and negative aspects of proposed actions so that its users can more easily recognize likely implications and render a sensible decision. It is particularly useful when comparing two or more alternatives. Even without a numerical score, the preferred alternative usually emerges.



Exercise

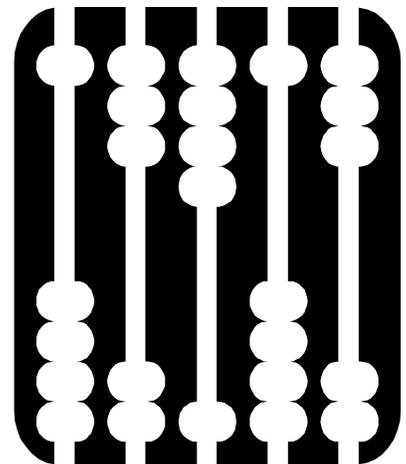
Part 2: Prioritize

The following matrix contains 15 factors that can be considered when thinking about any important community decision. The **Summary of Matrix Factors**, on the following page, includes questions to ask while considering each factor. You may wish to add factors or questions to better focus this tool on your particular community or the particular decision at hand. Or, you may wish to remove factors. But be cautious; consider if their removal would simply avoid an uncomfortable discussion.

Your responses in column A of the matrix will apply to the proposed action. Column B can be used for a “no-action” alternative (that is, doing nothing) and Column C might be used to examine an alternative action, including one that might emerge in the course of the discussion regarding the originally proposed action. If the community is considering two or more alternative ways to solve a problem, you might create as many columns as there are alternatives.

Respond to the questions for each factor by assigning one of seven symbols: (++) if you think the proposed action will have a highly positive effect, (+) for a positive effect, (0) no effect, (-) a negative effect, (--) a highly negative effect, (?) if you don't have enough information to estimate the effect, or (n/a) if the factor does not apply to proposed action you are evaluating. If you write in “?” regarding an important factor you may wish to obtain more information before proceeding with the decision. But be careful, gathering more information can be a handy way to avoid a thorny decision.

If you indicate potential negative effects, also discuss ways in which the proposed action might be changed to achieve more positive results. If the changes are significant, you may wish to fill out Column C for the revised action.



Decision-making matrix⁶

A. Proposed action: _____

B. No action

C. Alternative action: _____

Factors		Alternative Actions		
		A	B	C
1	Long-Term Effects			
2.	Off-site Effects			
3.	Cumulative Effects			
4.	Self-Reliance			
5.	Economic Diversity			
6.	Environmental Diversity			
7.	Growth			
8.	Throughput			
9.	Fairness			
10.	Public Services			
11.	Finances			
12.	Natural Resources			
13.	Waste			
14.	Multiple Benefits			
15.	Other:			

Notes: The factors are not listed in order of importance.
 The matrix can also be used to consider several alternative actions
 (e.g. *alternative* road alignments or building sites)

Key: ++ highly positive effect -- highly negative effect
 + positive effect ? need information
 0 neutral effect n/a not applicable
 - negative effect

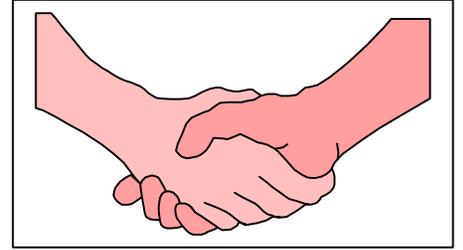
⁶ This Matrix was developed by Michael Kinsley.

Summary of matrix “factors”

1. Long-Term Effects: Is this proposed action compatible with the community’s stated goals—its vision or preferred future? What effects might the action have in ten years? How will it affect future generations? Can future problems be minimized or avoided?
2. Off-Site Effects: Will the action cause effects somewhere other than the place where the action will take place? These kind of effects might be, for instance: next door, blocks away, in the next community, downstream or downwind. If there are negative off-site effects, can these be reduced or turned to the community’s advantage?
3. Cumulative Effects: An action may seem benign when considered alone, but it may have important negative effects when considered in light of other decisions and actions. Consider these kinds of effects by thinking about previous or likely future actions regarding similar issues. Is the problem we are attempting to solve caused by some earlier action? If so, might today’s proposed action create problems? Where would this action lead us; what problems might it create for future leaders? What will be the cumulative effect of this and other related actions? (i.e. Approving a subdivision may contribute to a gradual loss of farmland).
4. Self-Reliance: Will this action affect the community’s self-reliance? Will it make the community less or more vulnerable to outside influences (e.g. global trade, severe weather, economic downturns, corporate or governmental decisions)?
5. Economic Diversity: Will it affect the community’s economic diversity? Will the community become more or less dependent on a single large employer or one type of business activity? Will it enable local businesses or residents to produce or buy things locally, instead of outside the community? Does this action put all the community’s eggs in one basket? Is it an all-or-nothing prospect? Or can the strategy withstand partial failure while achieving overall success?
6. Environmental Diversity: Will this action affect environmental diversity? Will it decrease habitat size or type, or number of species?
7. Growth: Will this action make the community better or just bigger? If the action would make the community bigger, who will pay the costs of the expansion? Might this action lead to, or be part of, a boom and bust cycle?
8. Throughput (the quantity and flow of resources that are processed, used, and turned into waste, e.g. the number of harvested bushels, cut trees, or tourist days.) Will this action increase “throughput,” in certain areas without creating the means to pay for associated costs? Has the community reached the point where increasing throughput in certain areas increases costs more than benefits?
9. Fairness: Will this action create inequitable costs and benefits? Will one group receive the benefits of this action while another pays disproportionate costs? Consider age, gender, race, income, and disability. What kind of environmental, social, or economic effect will this action have on less fortunate members of the community? Can the action be changed to distribute benefits and costs more fairly? Will the costs of this action be imposed on future generations who receive less or none of its benefits?
10. Public Services: Will the action affect existing public services (schools, police, roads, water, sewer, etc.)? If the effect is negative, who is being affected by reduced quality of service? Or, who is paying the additional costs to expand services? Is it possible to avoid expansion by using existing resources more efficiently?
11. Finances: What is the net effect on community finances (revenues vs. long-term costs)?
12. Natural Resources: Will this action positively or negatively affect natural resources (water, energy, land, soil nutrients, minerals)? Will the action use resources renewably? If the action will significantly reduce or exhaust a resource, what will the community do? Will the action foster efficient use of resources? Are there opportunities to get the same or more benefit by using fewer resources?
13. Waste: Will this action create significant amounts of waste or pollution? Is there a way to reduce, reuse, or recycle the wastes? What are the economic, community and environmental costs of disposing of the waste? Are there ways to put the waste to work in the community creating more jobs or income?
14. Multiple Benefits: Does this action solve more than one problem? Can the proposed action be adapted or expanded so that it will address more than one community problem?

Act

The decision matrix, should help a community determine which actions align with its vision. As suggested, *no action* is sometimes the option of choice.



Make an action plan

Action plans reinforce the idea that visioning, network building, exploring and prioritizing options, acting, and reflecting are related processes. A well-conceived action plan is the "heart and art" of sustainable development. It is about making smart choices and win-win decisions. Thoughtful actions are connected actions and reflect our community visions and values. Priority actions will connect our visions, values, and people.

Wise choices will make us feel like we can have our cake, and eat it too. The opposite may also hold true... wise choices sometimes require us to break old habits and question the way "we have always done it." They may also require that we take a fresh look at old spending priorities.



Exercise

Develop an Action Plan

Fit

How does the project address the community vision? How does the project fit within the region? Are there ways to make it a better fit? Review the [Summary of Matrix Factors](#) and the Attachments section for ideas.

People

Who has an interest or a stake in the action? Are there others who can assist? Have all who will be affected been invited to participate? Is the group open and accessible to participation?

Coordination

How does the project fit with other projects? What community assets will be leveraged or enhanced? Are there synergies between certain projects?

Sustainability

Is the effort a one-time project or ongoing program? What community challenges will be addressed? Will ongoing planning, action, and reflection be incorporated? Are their legal, financial, or political barriers which should be addressed?

Support

What resources can be leveraged to assist? What funding sources might be available? Will the project generate revenue? Has a detailed, yet flexible budget been developed?

Reflect

Reflection is an important part of any development process.

- What are we learning?
- How is the process going?

Sometimes we are so busy doing that we forget to stop and ask Why? What for? Is there a better way? The ideas and processes offered in this manual suggest that we make more mindful, thoughtful, and respectful decisions -- with an eye on impacts, connections, and opportunities for synergy.

Indicators

Many communities are using indicators (also called benchmarks or scorecards) to monitor progress and measure success. Indicators go beyond reflection. They can also help develop and reinforce the vision, network, action and reflection.

Indicators help answer questions such as:

- Are we being the people and community that we want to be?
- Are our decisions contributing to a healthy, happy, and sustainable future?
- Are we making progress?

A "sustainability" indicator is a measure of some characteristic of the community, which is considered important to monitor over time so that policies and practices can move the community in a sustainable direction.

Indicator Categories

Redefining Progress also shares a list of GENERAL INDICATOR CATEGORIES such as:

- | | | |
|---|--|---|
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Education | <input type="checkbox"/> Poverty |
| <input type="checkbox"/> Arts and Culture | <input type="checkbox"/> Government and Human Services | <input type="checkbox"/> Recreation and Open Spaces |
| <input type="checkbox"/> Children and Family | <input type="checkbox"/> Health and Safety | <input type="checkbox"/> Resource Use |
| <input type="checkbox"/> Citizen Participation | <input type="checkbox"/> Housing | <input type="checkbox"/> Solid Waste |
| <input type="checkbox"/> Crime and Violence | <input type="checkbox"/> Jobs (Quality and Quantity) | <input type="checkbox"/> Toxic and Hazardous Waste |
| <input type="checkbox"/> Elderly | <input type="checkbox"/> Land Ownership | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Economy and Employment | <input type="checkbox"/> Population | <input type="checkbox"/> Water Quality |
| <input type="checkbox"/> Environment | | |

Simple examples

Another great resources for community indicators can be found at Redefining Progress's website: http://www.rprogress.org/resources/cip/faq/cip_faq.html. This site includes a section titled "Frequently Asked Questions" which offers valuable resources for communities considering an indicator project. Many communities around the world have active indicator projects. See additional information in the Resources section.





Criteria for good indicators

First, the indicator should be relevant to the underlying dynamics of the community being measured, so it should be somehow related to the population, housing, businesses, and the use of land over time. It should be theoretically important to understanding where the community/region is going. One can ask the following set of questions about any proposed indicator:

Is the indicator...

- Understandable and clear to everyone?
- Something which has a good probability of being measured over time?
- A measure which takes the long term view – Must be measurable over time?
- A measure which shows linkages, i.e., is affected or affects other indicators?
- A measure which is specified relative to a set of natural, economic, or social constraints?



Cautions about indicators

Once a community gets really involved in creating and measuring indicators, people may get too enthusiastic about them and ignore some inherent limitations and constraints. One potential problem is that people can ignore the fact that linkages exist between the sustainable indicators. Moving in one direction can eventually affect other sustainable indicators negatively. That is why one has to be sensitive to tradeoffs.

One way to become sensitive to the possibility of unintentional consequences is to take a systems approach. Thinking systemically helps to focus on the linkages between indicators and aids in seeing potential long-term problems with proposed policies. On many campuses across the country, researchers are developing and using GIS (geographic information systems) to help people make wise land use decisions. These dynamic models can also help determine desirable growth scenarios and examine the effects of proposed zoning changes.



Exercise

Consider the Attractiveness Principle

Groups who go through the process of envisioning livability are often not aware of tradeoffs. The necessity to become aware and deal with tradeoffs is due to the “attractiveness principle.” Ask your group to answer the following questions:

What happens when our community reaches its long term goals?

What is the community willing to tolerate in order to maintain what it wants?

Discussion

Some groups apparently feel that once a community reaches its goals, it will live happily ever after. That most likely will not happen. Sustainability is a dynamic process. If one always tries to optimize everything, eventually the community will become so attractive, i.e., the community has so many nice features that it would become over crowded and exploited in many ways. Alfeld (1995) suggests that, in defining goals, a community has to pick the characteristics which it would like to maintain and choose the right negative characteristics to live with in order not to be too attractive.



Supplemental Exercise

Reflect on Indicators... On Line!

Maureen Hart (1999) has done a lot of work in developing a method for teams to derive, use, and interpret indicators.

This training opportunity is available on-line at
<http://www.sustainablemeasures.com/Training/index.html>

Conclusion

We want to hear from you! This manual introduces the concept and examples of sustainability. We're sure that you have some even better examples in your community. Please share your success stories, failures, and suggestions for future versions of this publication. Use the form below for convenience...



Exercise

Give us feedback!

Which section of this manual did you find most helpful?

How are you involved with development in your community?

We are interested in featuring projects in future publications. Please describe your project (or process) below. Include a link or attach additional material if you like.

If you would like to be notified of updates to this manual, please provide us with contact information:

Name _____
Address _____
City, State, Zip _____
Phone _____
E-mail _____
Website _____
Interest area _____

Please return to:
MSU Center for Urban Affairs
1801 West Main Street
Lansing, MI 48915-1097
517/353-9555 or fax: 517/484-0068
E-mail: cua@msu.edu

Resources

Education

Acorn Naturalists www.acorn-group.com
Assoc. for Environmental Education <http://eelink.net/classroomresources-directories.html>
Blueprint for a Green Campus www.envirocitizen.org/cvg/blueprint/
Books for Young People on Environmental Issues www.epa.state.il.us/kids/teachers/books.html.
EPA Student Center www.epa.gov/students
Planet Neighborhood www.planetneighborhood.org/
PBS www.pbs.org/teachersource/science_tech/planetearth/
Realia Group - Teaching Sustainability through Experiential Learning realiagroup.com
Second Nature www.secondnature.org
The Higher Education Network for Sustainability and the Environment www.hense.org
Urban Options www.urbanoptions.org

Indicators

Hart Environmental Data www.subjectmatters.com/indicators/Resources/WebLinks.html
Livable Communities <http://www.livablecommunities.gov>
Lots of links at: <http://www.livablecommunities.gov/indicators/links.htm>
Redefining Progress (includes ecological footprints) www.rprogress.org

Planning and Sustainability

American Planning Association www.planning.org
Center for Compatible Economic Development www.cced.org
Center for Excellence in Sustainable Development www.sustainable.doe.gov
Center for Livable Communities www.lgc.org/clc
Center for Neighborhood Technology www.cnt.org
Communities by Choice: www.communities-by-choice.org
Growth Management Institute www.gmionline.org
Institute for Local Self-Reliance www.ilsr.org
Natural Step www.naturalstep.org
Remanufacturing Industries Council www.remanufacturing.org
Renew America www.solstice.crest.org/environment/renew_america
Rocky Mountain Institute: www.rmi.org
The Smart Growth Network www.smartgrowth.org
Sprawl Watch Clearinghouse www.sprawlwatch.org
Walkable Communities www.walkable.org

More Resources

Business for Social Responsibility www.bsr.org
Co-op America www.coopamerica.org/
Designing Products and Services: <http://www.sustainable-busforum.org/tools.html>
Environmentally Preferable Purchasing www.epa.gov/opptintr/epp
Global Environment & Technology Foundation www.getf.org
In Business www.jgpress.com/inbusine.htm
Institute for a Sustainable Future www.isfusa.org/
International Council for Local Environmental Initiatives www.iclei.org
Joint Center for Sustainable Communities www.naco.org/programs/comm_dev/center/index.cfm
MSU Center for Urban Affairs: 517-353-9555 www.msu.edu/~cua/
National Center for Appropriate Technology www.ncat.org/
National Center for Eco-Industrial Park Development www.cfe.cornell.edu/wei
Organization for Economic Cooperation and Development www.oecd.org/freedoc.htm
Renew America solstice.crest.org/sustainable/renew_america/
Resources Renewal Network www.rri.org
Rocky Mountain Institute www.rmi.org
Self-Assessment Guide: <http://www.sustainable-busforum.org/tools.html>
Sustainable Action Plan <http://www.environmentalbuilding.com/features/9-10/checklist.html>
Sustainable Business e-magazine www.sustainablebusiness.com
Sustainable Communities Network www.sustainable.org
Sustainable Facilities Guide <http://www.sustainable-busforum.org/sustfac.html>

Sustainable Jobs Fund www.sjfund.com.
Sustainable U.S. Network www.sustainableusa.org
The Natural Step www.naturalstep.org
U.S. DoE - Center for Excellence for Sustainable Development www.sustainable.doe.gov
United Nations Commission on Sustainable Development www.un.org/esa/sustdev
United States Society For Ecological Economics www.ussee.org
Urban Ecology www.urbanecology.org
West Michigan Sustainable Business Forum www.sustainable-busforum.org
World Resources Institute www.wri.org

Books

Natural Capitalism www.natcap.org/
The Ecology of Commerce www.amazon.com/exec/obidos/ASIN/0887307043/interfainc/104-1225598-9150323
Mid-Course Correction Toward a Sustainable Enterprise: The Interface Model
www.amazon.com/exec/obidos/ASIN/0964595354/interfainc/002-5018861-0842401

Land Use

Managing Growth and Addressing Urban Sprawl: An Overview (1999)
Managing Growth and Addressing Urban Sprawl: The Transfer of Development Rights (1999)
Reduce Your Taxes with Conservation Easements (1993)
Call local Extension office or MSU Bulletin Office at 517-355-0240 or www.maes.msu.edu/publication.htm#Research
Keeping this Land Ours: Taking an Active Role in the Land Use Decision Making Process (1999)
League of Women Voters, 888-346-9270 www.mlc.lib.mi.us/~lwvmi/landusef.htm
Land Use Conflict: When City and Country Clash (1999) Farm Foundation
Contact MSU Extension or Dave Patton at Ohio State University 614-292-8436
Smart Talk for Growing Communities: Meeting the Challenges of Growth and Development (1998)
Study Circles Resource Center, 860-928-2616 www.studycircles.org/pages/smart.html
Cost: small version for \$1 and a big version for \$5.

Attachment 1: Livable Community Checklist

BUILD VISION

- Invite participation
- Conduct community visioning sessions
- Inventory of local trends and resources/assets

LAND USE

- Start a community land trust
- Use regional, neighborhood, site, and building-scale practices to make density livable
- Integrate open space preservation into Master Plans
- Collaborate with other regions, townships, municipalities, etc. to share strategies
- Use compact development/conservation design of subdivisions
- Contribute to the area jobs-housing balance
- Mix land uses at the finest grain the market will bear and include civic uses in the mix
- Develop clusters and keep the clusters small
- Place high density housing near commercial centers, transit lines, and parks
- Phase convenience shopping and recreation opportunities to keep pace with housing
- Concentrate commercial development in compact centers or districts (rather than strips)
- Make shopping centers and business parks into all-purpose activity centers

POLITICAL/POLICY

- Explore public/private partnerships (public transportation, road repair, education, etc.)
- Allow neighborhoods to control land use
- Leverage private funding for public projects (schools, shared spaces, roads, infrastructure, etc.)

TRANSPORTATION

- Promote walkable communities
- Tame auto-oriented land uses, or at least separate them from pedestrian-oriented uses
- Keep vehicle miles of travel below the area average
- Reduce dependence on single passenger vehicles

SMART GROWTH

- Research Smart Growth or start a "study circle"
- Make full use of urban services (inefficient land use places financial strain on communities trying to provide for the construction/maintenance of infrastructure needs)
- Revamp the development review process
- Select and monitor indicators to track success
- Decide how much to grow and in what ways

SENSE of PLACE & COMMUNITY

- Preserve historic buildings
- Map the assets to build a "Sense of Place"
- Invest in social capital
- Make subdivisions into neighborhoods with well-defined centers and edges

REGIONAL COLLABORATION

- Build and maintain a working coalition of business, civic, and gov't leaders
- Pool tax resources
- Collaborate on land-use planning and education
- Provide incentives for municipalities, townships, and regions to collaborate

PUBLIC AWARENESS

- Build momentum with a single issue -- (traffic, challenge specific proposals (i.e. Wal-Mart), urban revitalization, community indicator project, etc.)

GOOD BUSINESS PRACTICES

- Adopt purchasing policies which incorporate life-cycle and resource-efficiency and other sustainability values
- Support eco-tourism
- Reinvest in infrastructure at a rate = or above rate of depreciation of assets
- Launch a sustainable business forum
- Start a community loan fund
- Conduct a Community Income and Expenditures research project

INCENTIVES

- Charge higher fees for development that takes place outside the city center
- Focus development in appropriate areas (such as brownfields)
- Define an urban service boundary and concentrate investments within these targeted areas

EDUCATION

- Integrate sustainability into math, science, social studies, and language arts
- Provide job training to meet needs of community and businesses
- Reserve school sites and donate them if necessary to attract new schools

ENERGY & RESOURCE EFFICIENCY

- Create a Public Utility
- Promote and finance energy improvements for residents, business and industry
- Conduct Energy Efficiency Planning
- Build/Retrofit an Energy Star subdivision
- Incorporate life-cycle costing (i.e. include maintenance and operation) in purchasing
- Choose resource efficient projects such as EnergyStar equipment and products made from recycled materials

Attachment 2: What YOU Can Do

Better Alternatives to Automobile Transportation

- Ride the bus or carpool
- Bike to work, the store, etc.
- Walk to work, the store, etc.
- Work a compressed work week (four 10-hour days)
- Work at home communicating through e-mail and telephone
- Drive during hours other than rush hour

Engaged Community and Responsive government

- Volunteer with community-based organizations or events
- Participate in a neighborhood association
- Share your opinions with government officials
- vote
- Help a neighbor
- Provide excellent public service

Safe Neighborhoods

- Get to know your neighbors
- Consistently set a good example for children
- Participate in a neighborhood watch program
- Report any suspicious activities to the Police Department
- Keep your yard free from rubbish and flammable materials

Caring, Healthy Families and Youth

- Encourage your child to participate in after school programs
- Respect your child and teach them to respect others
- Be a mentor
- Take parenting class, read parenting books and articles
- Appreciate your spouse
- Have fun with your family

Excellent Public Education

- Take advantage of classes offered at college/community education
- Utilize library facilities and get your children involved
- Visit museums and the zoo
- Attend educational community events
- Attend community forums/workshops
- Volunteer at your child's school

Infill and Reinvestment, Not Urban Sprawl

- Live close to the center of town
- Enjoy the culture and activities within city limits
- Respect local habitats and wildlife
- Support preservation of valuable habitat and wildlife corridors
- Make improvements to your house
- Learn about historic districts

Abundant Urban Green Space and Recreation Areas

- Enjoy public parks and recreation areas
- Utilize bike and walking paths
- Use natural landscaping for your yard
- Get involved with graffiti abatement
- Respect habitat and wildlife

Better Paying Jobs

- Get sufficiently educated and trained for quality jobs
- Work with local organizations that help small businesses succeed
- Encourage young people to learn new skills

Protected Natural Environment

- Respect habitat and wildlife
- Learn about different native species of plants and animals
- Visit the zoos, arboretums, parks, etc.
- Go for a hike (and stay on the trails)
- Smell flowers
- Support development that respects native habitat and wildlife

Clean Air and Quality Water

- Educate yourself about air and water pollution
- Drive less (automobile exhaust produces over 505 of the air pollution in Greater Lansing)
- Use manual- or electric-powered instead of gas-powered equipment (lawnmowers, weed-eaters, cars)
- Reduce, ReUse and Recycle. Waste disposed of in the landfill can produce leachate, a toxin which may contaminate groundwater
- Use less water: install high-performance showerheads, use a drip system for watering plants, turn off the faucet during teeth brushing, collect rainwater off your roof for use during dry times, plant low water use trees and foliage, and only use dishwashers and washing machines when they are full

People-Oriented Neighborhoods

- Take pride in your home
- become friends with your neighbors
- Join or create a neighborhood association
- Utilize public parks, neighborhoods and recreation centers, and public pools

Respect Historic and Cultural Resources

- Read about local history
- Visit local and regional historical sites
- Visit the local museums.
- Participate in cultural traditions and activities

Quality Job Training

- Participate in training to improve your marketable skills
- talk to your children and stress the importance of education beyond high school
- Continue to improve your own skills through education and training

Reduced Poverty and Greater Equality of Opportunity

- Education yourself about discrimination problems
- Take advantage of opportunities to better yourself and your situation
- Support community-based organizations that provide education, training, and neighborhood development

Strong Local Businesses

- Buy merchandise and service from locally-owned shops
- Have lunch or dinner at a locally-owned restaurant
- Tell local merchants what you like better about chain store or franchise businesses so they can compete more effectively

Efficient Use of Natural Resources

- Reduce the amount of products you buy that have a lot of packaging or are not recycled or recyclable
- Re-use containers, refinish old furniture and fix broken items
- Recycle glass, paper, cardboard, aluminum cans, tin/steel cans, magazines, phone books, newspaper, polystyrene, #2 plastic, #1 plastic
- Utilize a Household Hazardous Waste program to recycle batteries, antifreeze, pesticides, oil-base paints, medicine, and other household chemicals
- Conserve water: Plant low-water-use vegetation, use drip irrigation, run your washing machine and dishwasher only with full loads, turn the facet off while you brush your teeth
- Purchase Energy Star appliances
- Be energy efficient: turn lights off when you're not in the room, insulate your home, combine several errands in one trip, take the stairs instead of the elevator
- Get a Home Energy Rating

Successful downtown

- Attend cultural events located in the downtown area
- Shop downtown
- Visit downtown museums, galleries and special events
- Call your local Visitors Center for a tour guide

Attachment 3: Assessing Progress

Redefining Progress suggests four aspects of assessing progress toward sustainable development. Principle 1 deals with the starting point of any assessment - establishing a vision of sustainable development and clear goals that provide a practical definition of that vision in terms that are meaningful for the decision-making unit in question. Principles 2 through 5 deal with the content of any assessment and the need to merge a sense of the overall system with a practical focus on current priority issues. Principles 6 through 8 deal with key issues of the process of assessment, while Principles 9 and 10 deal with the necessity for establishing a continuing capacity for assessment.⁷

- 1) **Guiding Vision and Goals**
Assessment of progress toward sustainable development should be guided by a clear vision of sustainable development and goals that define that vision
 - define the space of study large enough to include not only local but also long distance impacts on people and ecosystems
 - build on historic and current conditions to anticipate future conditions - where we want to go, where we could go
- 2) **Holistic Perspective**
Assessment of progress toward sustainable development should:
 - include review of the whole system as well as its parts
 - consider the well-being of social, ecological, and economic sub-systems, their state as well as the direction and rate of change of that state, of their component parts, and the interaction between parts
 - consider both positive and negative consequences of human activity, in a way that reflects the costs and benefits for human and ecological systems, in monetary and non-monetary terms
- 3) **Essential Elements**
Assessment of progress toward sustainable development should:
 - consider equity and disparity within the current population and between present and future generations, dealing with such concerns as resource use, over-consumption and poverty, human rights, and access to services, as appropriate
 - consider the ecological conditions on which life depends
 - consider economic development and other, non-market activities that contribute to human/social well-being
- 4) **Adequate Scope**
Assessment of progress toward sustainable development should:
 - adopt a time horizon long enough to capture both human and ecosystem time scales thus responding to needs of future generations as well as those current to short term decision-making
- 5) **Practical Focus**
Assessment of progress toward sustainable development should be based on:
 - an explicit set of categories or an organizing framework that links vision and goals to indicators and assessment criteria
 - a limited number of key issues for analysis
 - a limited number of indicators or indicator combinations to provide a clearer signal of progress
 - standardizing measurement wherever possible to permit comparison
 - comparing indicator values to targets, reference values, ranges, thresholds, or direction of trends, as appropriate
- 6) **Openness**
Assessment of progress toward sustainable development should:
 - make the methods and data that are used accessible to all
 - make explicit all judgments, assumptions, and uncertainties in data and interpretations
- 7) **Effective Communication**
Assessment of progress toward sustainable development should:
 - be designed to address the needs of the audience and set of users
 - draw from indicators and other tools that are stimulating and serve to engage decision-makers
 - aim, from the outset, for simplicity in structure and use of clear and plain language
- 8) **Broad Participation**
Assessment of progress toward sustainable development should:
 - obtain broad representation of key grass-roots, professional, technical and social groups, including youth, women, and indigenous people - to ensure recognition of diverse and changing values
 - ensure the participation of decision-makers to secure a firm link to adopted policies and resulting action
- 9) **Ongoing Assessment**
Assessment of progress toward sustainable development should:
 - develop a capacity for repeated measurement to determine trends
 - be iterative, adaptive, and responsive to change and uncertainty because systems are complex and change frequently
 - adjust goals, frameworks, and indicators as new insights are gained
 - promote development of collective learning and feedback to decision-making
- 10) **Institutional Capacity**
Continuity of assessing progress toward sustainable development should be assured by:
 - clearly assigning responsibility and providing ongoing support in the decision-making process
 - providing institutional capacity for data collection, maintenance, and documentation
 - supporting development of local assessment capacity

⁷ From: <http://iisd1.iisd.ca/measure/bellagio1.htm>

Attachment 3: Natural Capitalism

Natural Capitalism⁸

Natural Capitalism offers a unique way to bring a community together. It's attractive to business people because it offers ways to strengthen competitiveness, while enhancing livability and reducing environmental impacts. The principles of Natural Capitalism lead to increased living-wage jobs, income, commerce, savings, and community well being without necessarily requiring community expansion. Because this kind of development proceeds independent of increases in the size of a community, it's attractive to both booming and declining communities.

Listed near each principle are examples of activities or programs. Many are well-known, others innovative. They distribute benefits widely across the community. Most require little or no community expansion. While not all apply to every community, the length of this list indicates that there is an untapped wealth-generation potential in virtually every community.

"Natural Capitalists" tend to focus on four strategies:

- **Invest in Resource Productivity**
- **Shift to Biologically-Inspired Economic Models**
- **Join the Solutions Economy**
- **Invest in Natural Capital**

Principle 1: Invest in resource productivity

A local economy might be compared to a bucket that the community would like to keep full. Business recruitment and community expansion are attempts to pour more money into the bucket. While these strategies may have succeeded in the past, today they often fail or generate more costs to the community than benefits.

But focusing entirely on more ways to fill the bucket ignores vast opportunities. Economic buckets invariably have holes in them through which dollars leak every time local resources are used inefficiently. Smart communities seek profitable ways to keep the bucket full by plugging unnecessary leaks in one of more of the following thirteen ways. The best ways to plug leaks are to increase the productivity with which local resources are used and to support local businesses.

(Note: see the Center's work on Community Income and Expenditures Models at <http://www.msu.edu/~cua/projects/CIEM%20Project.htm>)

This strategy is good news for communities that have little hope for expansion. It's equally encouraging in places where expansion is creating problems. Instead of relying on the hope of continuous expansion, that is also imposing large costs, rapidly expanding communities now have many alternatives.

⁸ Courtesy of Michael Kinsley

Resource Productivity

1. Energy efficiency programs create local jobs and will save millions of dollars most communities. Sacramento CA, invested \$59 million to save electricity. This enabled utility customers to save nearly that same amount. The program created 880 direct jobs, and increased regional income by \$124 million. Though energy is a small portion of total costs, saving energy will provide a significant contribution to profits and economic progress. In housing, options include specifying efficient "EnergyStar" appliances, lighting, efficient heating, pumps, ventilation systems, and super-insulation.
2. Local business ownership increases the wealth-creating power of each transaction. Land trusts and community stock corporations can ensure permanent local ownership of many businesses by buying local buildings and renting only to residents (at cost). Example: The Green Bay Packers are owned by a corporation whose majority stockholders are from Wisconsin **and who would never sell the Packers to another city.**
3. Import substitution replaces "imports" with local products and services. Simple example: Locally bottled water in Tropic, Utah, replaced imports and established a new business. (see Community Income and Expenditure Model at www.msu.edu/~cua/)
4. Vendor matching links local-business buyers with local suppliers. An early program in Eugene, Oregon, created 100 jobs in its first year without any physical expansion of the city.
5. Water efficiency: The grassroots Mothers of East Los Angeles marketed a low-flush-toilet retrofit program that installed 270,000 toilets in three years, returned \$4 million to the neighborhoods in jobs, water-bill savings, and community programs, and saves over 3.4 billion gallons of water every year.
6. Downtown revitalization reduces economic leakage, builds pride, encourages infill, preserves culture, celebrates history, reuses resources, and reduces traffic.
7. Community supported agriculture: CSAs are local farms that increase productivity, reduce costs, and sell specialty crops direct to consumers and restaurants.
8. Business mentoring: Veteran business people "adopt" start-up businesses—giving rookie proprietors someone to talk with when things go wrong, helping them understand and avoid pitfalls. Such programs significantly reduce the high failure rate of start-ups.
9. Community cash flow can be captured through such community enterprise as locally based credit cards, debit cards and phone service.
10. Local currency: Ithaca, New York's currency is accepted by 1,200 business and can't be spent out of town. See: www.lightlink.com/hours/ithacahours/
11. Microcredit: Many low-income or impoverished people have the skills, but lack the credit to start a business. Tailored to very small, often home-based, start-up businesses, micro-loans are too small for conventional banks. Usually offered by nonprofit organizations in conjunction with basic business training, microcredit often provides a way out of poverty and off of welfare.
(See: http://www.msu.edu/~cua/pubs/FIA-Report/table_of_contents.htm)
12. Community development corporations employ business skills and tools to benefit the overall community by, for example, developing affordable housing.
13. Business "visitation" programs enlist local leaders to visit businesses to determine needs and concerns. Proprietors get the chance to offer suggestions to local governments and organizations regarding changes that could benefit local business.

Principle 2: Shift to biologically-inspired models

In the economic climate of the 21st Century, competitiveness requires lean business practices that, like biological systems, reduce and eventually eliminate waste. To be competitive, communities must pursue development strategies that analyze local material, energy, and waste streams; identify business opportunities; and match those opportunities with local businesses. Multiple benefits include more businesses and jobs, reduced resource inputs (and, therefore, lower costs), prolonged life of the local landfill, and reduced pollution.

Biologically Inspired Economic Models

1. Building salvage—Rather than demolish a building, dismantle and reuse its components. Southern California Gas saved \$3.2 million or 30% of construction costs on an office and education building by partly dismantling and reusing an existing building. The finished building was 80% made of recycled materials, keeping 350 tons of material out of the landfill. Ann Arbor's *ReUse Center* (<http://comnet.org/recycleannarbor/reuse.html>) buys and sells reusable building materials, household items, furniture, major working appliances, hardware, sporting goods, toys and clothing.
2. Remanufacturing creates businesses and jobs and reduces resource inputs. This new "industry" is now larger than the steel industry.
3. Advanced business retention and expansion programs mimic biological systems by enhancing adaptation, competition, inter-relationships, and information flow. Littleton, Colorado's program created jobs at six times the rate of its earlier recruitment efforts by offering such services as problem research, competitor analysis, industry trend monitoring, video conferencing, training, and market mapping. Such local policies enhance quality of life and intellectual infrastructure.
4. Flexible business networks: Several small businesses partner on contracts too big for any one of them, not unlike coyotes who usually hunt on their own, but run in packs when seeking larger game.
5. Storm-water capture saves money, recharges groundwater, and reduces pollution by helping rain soak in the ground where it falls rather than collecting it into expensive centralized systems, which, in some areas, overwhelms sanitary sewage systems resulting in significant pollution. (Example: Permeable parking lot material.)
6. Green Buildings provide the opportunity to achieve cost-savings, resource efficiency, and a healthy indoor environment using environmentally-friendly, recycled, and/or reclaimed materials.
7. Close the loop. Waste reduction and import substitution can sometimes be achieved simultaneously! The State of Michigan, for example, publishes a "Recycled Materials Market Directory, available on the web at www.deq.state.mi.us/ead/recycle/rmmd.html.
8. Environmental Management Systems provide the opportunity to monitor, assess and mitigate environmental impact of projects, products, or facilities. The ISO-14000 series of international standards have been developed for incorporating environmental aspects into operations and product standards. The ISO-14001 standard specifies requirements for establishing an environmental policy, determining environmental aspects & impacts of products/activities/services, planning environmental objectives and measurable targets, implementation and operation of programs to meet objectives & targets, checking & corrective action, and management review.
9. Eco-Industrial Parks Several types of "eco-industrial parks" are gaining attention. The formula for success -- the networked sharing of resources to save money, reduce pollution, and trim waste is catching on in many parts of the country. Several examples include:

- *Virtual Eco-Industrial Parks* consist of a network of local firms, which exchange materials, cooperatively purchase recycled goods, and or share in hiring compliance/experts to assist in sustainability-related audits, product development, etc.
- *Zero Emissions Industrial Parks* optimize material flow efficiency by transforming a typical industrial park from a series of isolated firms into a consortium of firms in a self-contained, efficient system.
- A *Green Technologies Park* is an industrial park zoned for companies engaged in environmentally sound productions processes, that generate virtually no pollution or that manufacture environmental products.
- *Smart Parks* are the home to “clean” high-tech businesses such as information technology firms. The park may be wired for high-speed Internet access, enhanced networking capability, etc.

Principle 3: Join the solutions economy

According to the Wall St. Journal, creative manufacturers are shifting from product sales to service leasing. Communities must not mistake this for what has been called the service economy with such low-wage jobs as burger flipping and room cleaning. In sharp contrast, companies who are part of the solutions economy provide what customers truly want: quality, utility, and continuous performance instead of just more goods. For example, most offices buy copying services, not copiers. Instead of selling elevators, Schindler leases vertical transportation services.

This fundamental change in the relationship between producer and consumer boosts competitiveness by more directly addressing customer needs. It also reduces materials input and pollution output, enables the provider to make more money, and the customer to save money. Waste is reduced, and fewer raw resources are required.

Though the solutions economy is well underway, vast markets remain unexplored. Exciting opportunities remain available to smart communities that understand this new economy and assist appropriate local businesses in shifting from product sales to service leasing. These communities will offer incentives and research support and they'll identify and overcome public and private sector barriers that keep local businesses from making the shift to selling solutions instead of products.

Sustainable Business Forums consist of coalitions of businesses which share ideas and resources - solutions! These coalitions are demonstrating strength in numbers and picking the fruits of collaboration (see www.sustainable-busforum.org/). The West Michigan Sustainable Business Forum has developed a guide for developing products and services with sustainable attributes. (see www.sustainable-busforum.org/desguide.html)

Principle 4: Reinvest in natural capital

Everyone knows that living systems provide us with products—such essential natural resources as oil, water, trees, fish, soil, and air. Living systems also provide us with equally essential services.

These ecosystem services include

- Cooling (shade trees)
- Flood control (root systems)
- Purification of water and air (wetlands)
- Storage and recycling of nutrients (roots)
- Sequestration and detoxification of human and industrial waste (wetlands and ground filtration)
- Pest and disease control (by insects, birds, bats, and other organisms)
- Production of grasslands, fertilizers, and food
- Storage and cycling of fresh water
- Formation of topsoil and maintenance of soil fertility

These services are essential to doing business (and maintaining human life). Worldwide, however, these services are declining. Many of them have no known substitutes at any price. The future's strongest competitors will be businesses and communities that recognize these facts and invest accordingly:

Invest in natural capital

1. Restore natural ecosystems: In Port Angeles, Washington, an estuary restoration project is saving the local lumber mill \$150,000 yearly through more efficient logistics. It created space for expanding the mill and improved the town's tourism.
2. Create urban ecosystems: Supported by these systems, birds, bats, and frogs eat pesky insects. (e.g. Curitiba, Brazil).
3. Foster Eco-tourism to create local jobs while protecting important environmental values.
4. Maintain wetlands for waste treatment, storm-water retention, and wildlife habitat. Arcata CA restored 154 acres of wetlands and used it to treat City wastewater. The resulting marsh is now a wildlife habitat in which salmon are reared. The cost was a fraction of the costs for a conventional energy-intensive wastewater treatment system.
5. Maintain watersheds for flood control and drinking water.
6. Protect and enhance vegetative cover.
7. Protect ground water from chemical contamination.
8. Restore aquatic habitat.
9. Invest in Green Energy. In addition to conservation efforts, many utilities now offer green energy generated through wind, solar, biomass, or hydropower (dams). Some local governments have negotiated agreements to support retrofitting of buildings, businesses, or green power development with their utility as part of their franchise agreement.

(For more examples, see www.naturalcapitalism.org.)

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