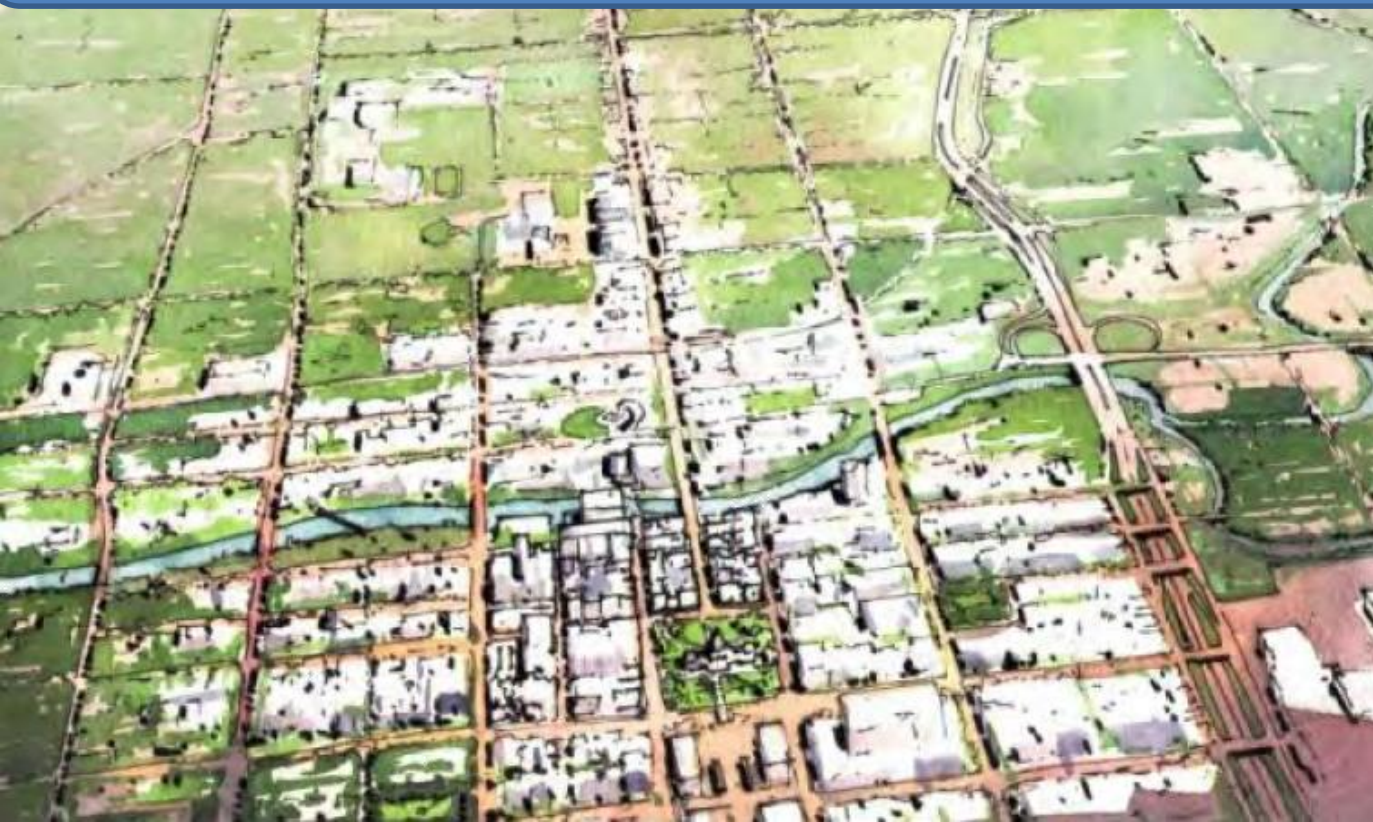




# A Self-Assessment of Sustainability in Your Community

Basic Version 1.0: A Preliminary Assessment of Community Sustainability



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**MICHIGAN STATE**  
UNIVERSITY

School of Planning, Design  
and Construction

# Acknowledgments

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## Project Team

This tool has been designed by the research team at the Michigan State University School of Planning, Design, and Construction. The project team consisted of Wayne Beyea, J.D., AICP as the principal investigator, accompanied by research assistants Jacob Maurer, Cal Coplai, Elizabeth Masserang, Seungjae (Max) Lee, Joshua Ladd, Michael Scarcelli, Jack McDonough, Nick Tafelsky, Sean Campbell, and Helen Hou.

Additional input and peer review was provided by members of the Sustainable Corridor Design Portfolio Task Force, including Mark Kieselbach and Gail Oranchak (Meridian Charter Township), Claudine Hannold (Eaton County), and Rex LaMore and Wanda Bloomquist (Williamstown Township). Additional input was provided by Dennis Kelly (Village of Webberville), Christopher Khorey and Christopher Doozan (McKenna Associates), Pete Preston (Clinton County), and Bill Rieske (City of Lansing). Technical review was provided by Kuntzsch Business Services, Inc.

# Preface

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This basic self-assessment tool is a compilation of 19 indicators of sustainability, divided into the categories of Economy, Environment, Governance, Community, and Livability (see Figure 6). Each indicator has associated Yes/No metrics. In total, 22 metrics are included in this tool to provide a basic measure of community progress toward sustainability. The full, detailed version of the audit tool is available at: <http://www.midmichigansustainability.org/>.

## What is a Sustainable Community?

There are a variety of definitions used to describe sustainability. A key component of a working definition for sustainability is the concept of systems thinking. Systems thinking recognizes that no action occurs in a bubble, that every facet of the biosphere is part of an interconnected structure with limitations (see Figure 1). A sustainable system is one that provides equal consideration to environmental stewardship, social equity, and economic efficiency (Sustainable Communities, *Introduction*, 2012). In the past, it was more common to simply focus on one or more of these categories separately. Sustainable communities acknowledge that environment, society, and economy are all interdependent factors that contribute to community sustainability. Figure 2 depicts several working definitions of sustainability within a community context that assisted with the development of this tool.

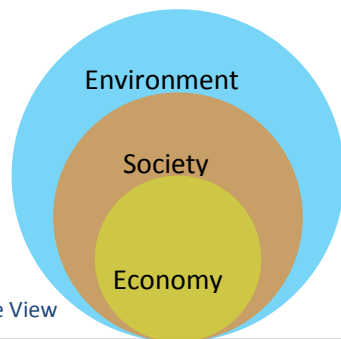


Figure 1: Interdependence View

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."  
**Brundtland Definition**

"Sustain - to cause to continue (as in existence or a certain state, or in force or intensity); to keep up, especially without interruption diminution, flagging, etc.; to prolong. "

**Sustainability**

"Sustainable communities are places that have a variety of housing and transportation choices, with destinations close to home. As a result, they tend to have lower transportation costs, reduce air pollution and storm water runoff, decrease infrastructure costs, preserve historic properties and sensitive lands, save people time in traffic, be more economically resilient and meet market demand for different types of housing at different price points."  
**SustainableCommunities.gov (HUD – DOT – EPA)**

Figure 2: Sustainability Definitions

## Built Environment

This audit tool’s five sustainability categories of Livability, Governance, Environment, Community, and Economy focus predominantly on the built environment. The built environment can be defined as “everything humanly made, arranged, or maintained” (Bartuska, 2007). Since this tool is a self-assessment for communities, metrics with a built environment emphasis were determined to be the most appropriate. The foundation for content within this tool included the Sustainable Communities course developed by Land Grant faculty from the Sustainable Communities Task Force within the North Central Region in cooperation with the extension Land Use Planning Community of Practice. This content identifies, explains, and presents common sustainability topics that communities are facing today. Topics from the Sustainable Communities Course include local food, the built environment, mobility, energy, natural resources, community capacity, and economic development. For the purposes of this tool, the built environment topic was expanded into the five sustainability categories of Livability, Governance, Environment, Community, and Economy (based on the International Council for Local Environmental Initiative’s [ICLEI] STAR Community Index, *Sustainability Goals & Guiding Principles*). Furthermore, indicators were identified within each of the five sustainability categories and specific metrics were developed to determine if an indicator was currently being met.

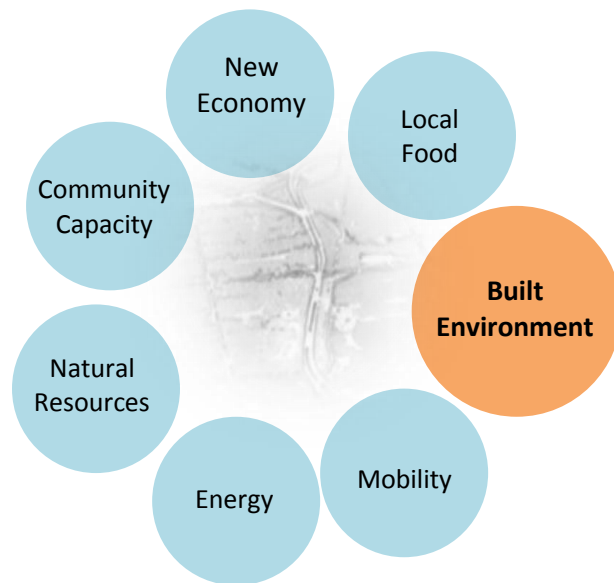


Figure 3: Sustainable Communities Content Areas

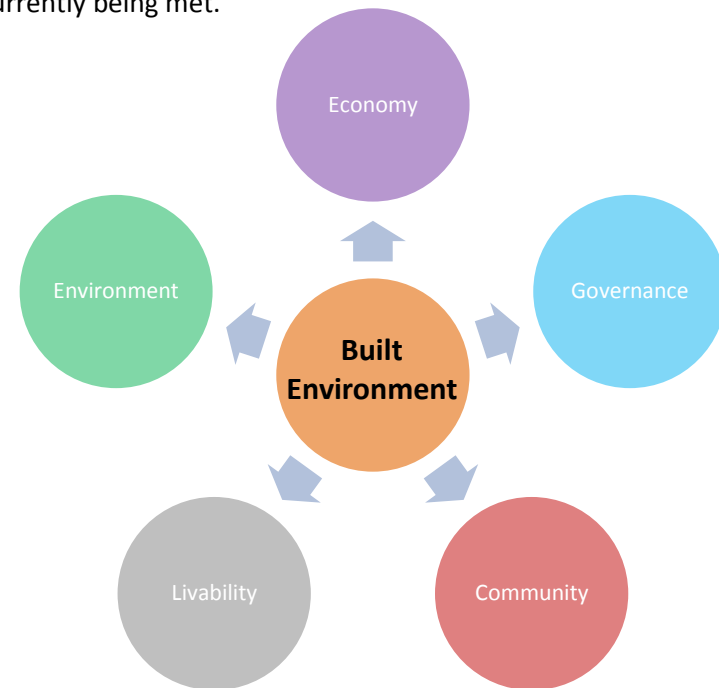


Figure 4: Sustainable Categories

## Process

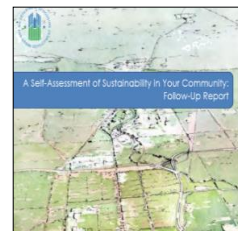
The indicators and metrics contained in this assessment tool were developed during a thorough research process, which included reviewing existing sustainability tools, research, and best practice documents. Resources have been analyzed from the United States Green Building Council (USGBC), American Planning Association (APA), U.S. Department of Housing and Urban Development (HUD), U.S. Environmental Protection Agency (EPA), U.S. Department of Transportation (DOT), ICLEI and the Michigan State University Land Policy Institute (LPI) and School of Planning, Design, & Construction (SPDC); among others. This tool is a synthesis and adaptation of best practices from these sources.

This tool was developed as a self-audit. The metrics included in this version of the tool are tailored specifically so that anyone with a basic understanding about the community can complete the audit. Access to the community website may provide some assistance in completing this assessment.

## Category Evaluation

At the end of this tool, the user will be asked to tally the “Yes” and “No” count. The count will fall into one of three sustainability categories: *Green Machine*, *Making Good Progress*, or *More Work to Do*. A *Green Machine* sustainability rating means that a community has addressed community sustainability with excellence. A *Making Good Progress* rating indicates that some sustainability measures have been taken within the community but there is still significant opportunity to improve. A *More Work to Do* rating shows that the community is not currently addressing sustainability effectively.

### 1. Review best practices



### 2. Categorize Research



Figure 5: Category Structure

### 3. Synthesize into Indicators/metrics

Sustainable Economy Indicators	Metrics	Yes	No
Protect Local Staple Industries	Are there local economic development programs, community, & regional?		
Technology	Are there policies, programs, or incentives to attract high-tech? Has action been taken to assist in transitioning manufacturing & planning strategies into the community?		
Maintain Healthy, Local Business	Local businesses are actively able to receive and respond to government programs and services? COMMUNITIES: Are the community-based resources effective in meeting infrastructure needs?		

Note: Sustainability key words within the audit are denoted by lower-case roman numerals and defined on page 12.

# Sustainability Categories

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The following sustainability category definitions were developed in order to create categorical context to assist with completion of this tool.

<b>Economy</b>		Economically sustainable communities establish local economies that are economically viable, environmentally sound, and socially responsible.
<b>Governance</b>		Sustainable governance encourages citizen participation with the goal of effectively and efficiently engaging community members and cooperating to solve common problems.
<b>Community</b>		Sustainable communities develop clear visions for future strategies by partnering with different sectors, identifying their resources, and engaging citizens to address common issues and creating mutually beneficial solutions.
<b>Environment</b>		Preserving and enhancing the natural environment is essential for maintaining community sustainability. Healthy ecosystems balance current economic needs while also assuring there will be adequate resources to meet future needs.
<b>Livability</b>		Livable communities are coordinated, collaborative environments that address their citizens' vision and needs by providing mixed-use neighborhoods and diverse housing options. These communities provide multimodal transportation options.

Figure 6: Sustainable Categories Definitions (sources: [sustainable.org](http://sustainable.org), [HUD.gov](http://HUD.gov))

# Sustainability Assessment

Category	Sustainability Indicator	Metric	Yes	No	Comments
Economy	Protect Local Staple Industries	Are there local economic assets specific/special to the community and region that have been capitalized on (e.g., tourism, unique agriculture)? <sup>2</sup>			
		Is the local economy diversified between many industries and companies (compared to being dependent on a single industry)? <sup>3</sup>			
	Maintain Local, Healthy Business	Is there evidence of a strong and welcoming local business community? <sup>4</sup>			
Governance	Policy/ Ordinances/ Taxes	Is there evidence within the community of cooperation between jurisdictions (e.g., regional transit, natural asset management, public safety)? <sup>5</sup>			
	Urban Boundary System	Is there evidence of the community directing development toward areas with existing infrastructure? <sup>6</sup>			

<sup>2</sup> RUPRI 2012

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.

<sup>5</sup> Smart Growth Network 2006

<sup>6</sup> HUD-DOT-EPA 2010, 11

Category	Sustainability Indicator	Metric	Yes	No	Comments
Community	Culture, Art, Ethnicity, Heritage, and Celebration	Are public spaces proactively being retrofitted so that they are accessible for all persons (e.g., physically disabled persons)? <sup>7</sup>			
		Are historic assets within the community identified and preserved? <sup>8</sup>			
		Does public education actively engage students in the arts (e.g., music, painting, theatre)? <sup>9</sup>			
		Does the community incorporate art into public spaces/events? <sup>10</sup>			
	Civic Engagement	Are a variety of engagement strategies utilized (e.g., online discussion, public meetings, targeted group sessions, charrettes <sup>ii</sup> , etc.)? <sup>11</sup>			
Justice & Equity	Are adequate housing options provided for all income levels (e.g., single-family, two-family, multiple-family, subsidized housing, senior housing)? <sup>12</sup>				

<sup>7</sup> ICLEI 2010, p.14

<sup>8</sup> Synthesis of (LPI 2007)& (ICLEI 2010, p.14)]

<sup>9</sup> APA Community Engagement 2011

<sup>10</sup> MiPlace Curriculum 2013

<sup>11</sup> Duany et al. 2010

<sup>12</sup> LPI 2007



Category	Sustainability Indicator	Metric	Yes	No	Comments
Environment	Energy	Is there evidence of clean and renewable energy <sup>iii</sup> within the community? <sup>13</sup>			
	Water	Has the community implemented “green” stormwater management techniques (e.g., permeable pavement <sup>v</sup> , waterfront buffers, retention ponds, or rain gardens)? <sup>14</sup>			
		Are local water bodies safe for recreation? <sup>15</sup>			
Livability	Education & Lifelong Learning	Is there a presence of and access to lifelong educational services for the community (e.g., libraries, higher education, and job training programs)? <sup>16</sup>			
	Encourage Healthy Lifestyles: Health, Nutrition, and Recreation	Is there an active local food system in the community, including farmer’s markets and/or organic markets? <sup>17</sup>			
	Responsible Buying & Consumption	Is there evidence of recycling and reuse programs throughout the community? <sup>18</sup>			
	Promotion of Diversity	Are there community activities/events that celebrate cultural diversity? <sup>19</sup>			

<sup>13</sup> LEED ND 2009

<sup>14</sup> Ibid.

<sup>15</sup> APA Water Policy 2002

<sup>16</sup> ICLEI 2010, p.18, APA Smart Growth 2012, p.2, HUD-DOT-EPA 2010, p.11

<sup>17</sup> APA. Food Planning. 2007

<sup>18</sup> Duany et al. 2010

<sup>19</sup> STAR 2014

Category	Sustainability Indicator	Metric	Yes	No	Comments
Livability	Provide Safe & Diverse Modes of Transportation	Does the community provide a variety of transportation options (e.g., dial-a-ride, buses, rail, non-motorized paths)? <sup>20</sup>			
	Value Existing Communities	Have steps been taken to create a unique identity or brand for local neighborhoods and/or the wider community? <sup>21</sup>			
		Is volunteerism and grassroots organization evident in the community? <sup>22</sup>			
		Is there evidence in the community of buildings that have been adaptively reused? <sup>23</sup>			
<b>TOTAL</b>					

<sup>20</sup> Duany et al. 2010

<sup>21</sup> NACO 2014

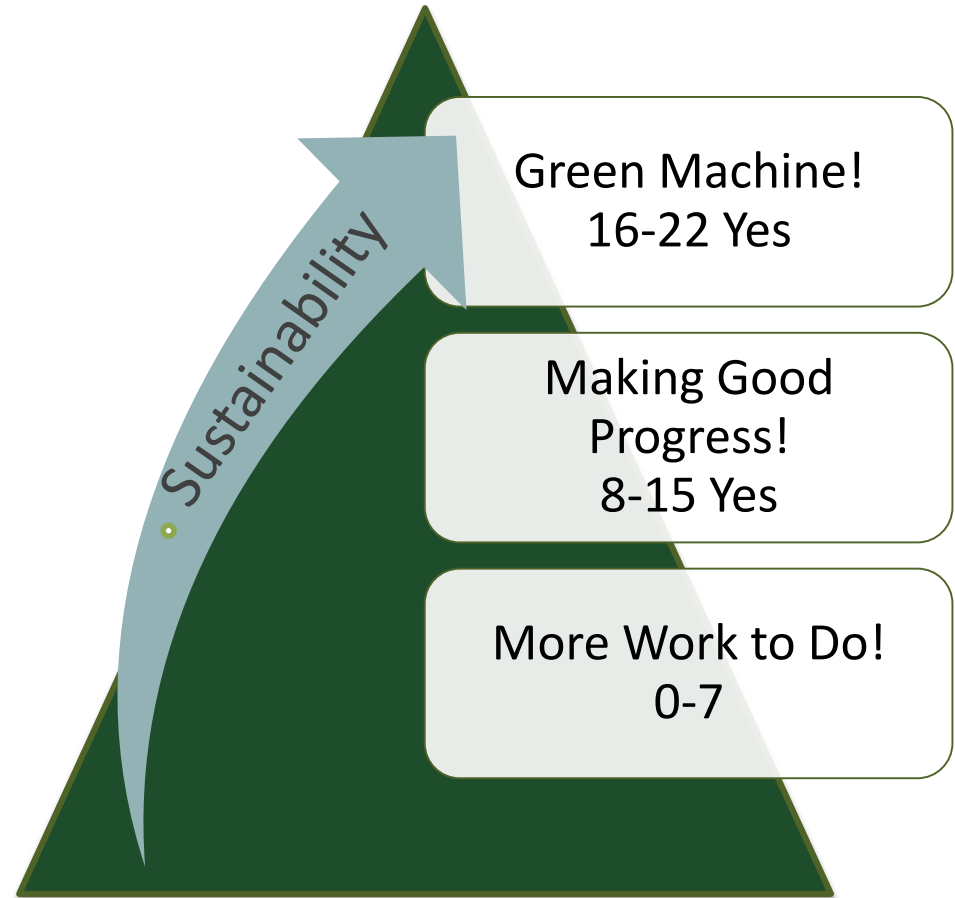
<sup>22</sup> STAR 2014

<sup>23</sup> LEED ND 2009

# Sustainability Assessment – Scoring Sheet

For an overall assessment of community sustainability, count the number of “Yes” metrics within each respective sustainability category. Finally, tally your overall score and see where the community falls on the sustainability pyramid.

Category	Points (# of Yes)	Out of
Economy		3
Governance		2
Community		6
Environment		3
Livability		8
<b>Total</b>		<b>22</b>



# Sustainability Keywords

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<sup>i</sup> Natural Asset Management: The combination of management, financial, economic, engineering, and other practices applied to physical assets with the objective of providing the required level of service in a cost effective manner<sup>24</sup>.

<sup>ii</sup> Charrette: A collaborative planning process that harnesses the talents of all interested parents to create and support a plan through short feedback loops, cross-functional design, collaborative work, multiple-day meetings, and creation of holistic solutions<sup>25</sup>.

<sup>iii</sup> Clean and Renewable Energy: Any naturally occurring, theoretically inexhaustible source of energy, as biomass, solar, wind, tidal, wave, and hydroelectric power, that is not derived from fossil or nuclear fuel<sup>26</sup>.

<sup>iv</sup> Permeable Pavement: An alternative to conventional concrete and asphalt materials that allows rapid infiltration of stormwater. Stormwater infiltrates into a porous paving material that provides temporary storage until the water infiltrates into underlying soils or through an underground drain system<sup>27</sup>.

<sup>v</sup> Adaptive Reuse: A process that adapts buildings for new uses while retaining their historic features by retaining all or most of the structural system as possible (e.g. cladding, glass, interior partitions, etc.)<sup>28</sup>.

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<sup>24</sup> "Asset Management", The Local Government & Municipal Knowledge Base 2008

<sup>25</sup> "FAQ", National Charrette Institute 2014

<sup>26</sup> Dictionary.com 2014

<sup>27</sup> "Permeable Pavement", NCAGR July 2012

<sup>28</sup> "Adaptive Reuse", MIT 2014

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