

Sustainability Assessment Tool - Southwestern Pennsylvania

**Guidance for Municipal Leaders, Developers and
Concerned Citizens**



SUSTAINABLE PITTSBURGH

May 2008



Dear Southwestern Pennsylvania Municipal Official,

This Sustainability Assessment Tool has been prepared by Sustainable Pittsburgh with local government officials in mind. Guiding growth and development in your municipality is a big responsibility. Planning for the long term impacts of development is both a challenge and one of the most enduring ways to enhance quality of life in your community. Our intent is to provide tools and models to help you usher in development that delivers economic, social and environmental value... simultaneously and long into the future. Indeed, this defines sustainability. This Sustainability Assessment Tool strives to help you know sustainable attributes when you see them and to evaluate and plan for your community's sustainable development. We also recommend incorporating requirements for sustainability in your zoning and subdivision/land development ordinances.

Adherence to sustainable principles of design and building provides many benefits. Using these principles will put you – not outside pressures – in charge of your community's future such that you are in better position to:

- Ensure the revitalization or continuing vitality of your municipality.
- Generate high quality development that will beget more of the same. This type of development will generate better, higher paying jobs and increased taxes while costing less to service.
- Reduce the public and private costs of development and infrastructure not only in the construction stage but also in future maintenance and replacement.

This Sustainability Assessment Tool includes a memorandum outlining the many provisions contained in the Pennsylvania Municipalities Planning Code (MPC) providing local government officials with the legal authority to implement sustainable development in their land use ordinances. Sustainability concepts are found in MPC's sections dealing with comprehensive plans, subdivisions and land developments, planned residential developments, traditional neighborhood developments and Intergovernmental Cooperative Agreements for multimunicipal planning and implementation. In summary, municipal officials have substantial authority to use their comprehensive plans and zoning and subdivision/land development ordinances to require sustainability.

Also presented here are two exemplar case studies of developments from around Southwestern Pennsylvania that demonstrate the principles of sustainable design and building. These developments were evaluated using a Sustainability Assessment Checklist (Appendix A) that Sustainable Pittsburgh assembled based on local observations and similar efforts around the country including the United States Green Building Council and the American Institute of Architects. In addition to using this checklist during on-site observations our evaluation involved conversations with developers as well.

Appendix B contains another, more comprehensive sustainability checklist that is intended as a helpful framework for guiding all types of decision making and investments.

In disseminating this Sustainability Assessment Tool, Sustainable Pittsburgh shares with you the goal to make our region better for ourselves and future citizens. One way we do this is to provide information about best practices in the areas of development, environmental conservation and social equity. We encourage you to use this material in your plans, ordinances and development reviews to create or maintain a community that citizens prize as a place to live, work, shop, recreate and raise a family.

Feel free to contact Sustainable Pittsburgh for assistance or questions about applying these principles by calling (412) 258-6642.

Sincerely,
Court Gould
Sustainable Pittsburgh

Blaine Lucas, Esq.
Babst, Calland, Clements & Zomnir, P.C.



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Authority for the Use of Principles of Sustainability Contained in the Pennsylvania Municipalities Code

SUSTAINABILITY AND THE MUNICIPALITIES PLANNING CODE

The authority to regulate land use in the Commonwealth of Pennsylvania is conferred upon local governments by the Pennsylvania Municipalities Planning Code (MPC). Although you will not find the term “sustainability” expressly mentioned in its text, the MPC is replete with references to sustainability concepts. From the MPC’s adoption in 1968, the ability of municipalities to employ sustainability tools has been evident in its provisions authorizing municipalities to adopt comprehensive plans, subdivision and land development ordinances, zoning ordinances and planned residential developments. This statutory power was clarified and reinforced by the General Assembly’s adoption of Acts 67 and 68 in 2000. Commonly referred to as Pennsylvania’s “Growing Smarter” legislation, Acts 67 and 68 authorize multi-municipal planning and the creation of “designated growth areas” and lay out a blueprint for those communities wishing to encourage “traditional neighborhood developments.”

Article I: General Provision

The stated purposes of the MPC include promoting the conservation of energy through the use of planning practices and promoting the effective utilization of renewable energy sources; preserving the Commonwealth’s natural and historical resources and prime agricultural land; and encouraging the revitalization of established urban centers. (§105)

Article III: Comprehensive Plan

Comprehensive plans may include, among other things: (1) a plan to meet housing needs including conservation of presently sound housing, rehabilitation of housing in declining neighborhoods and accommodation of new housing in different dwelling types; (2) a statement of estimated environmental, energy conservation, fiscal, economic development and social consequences; (3) plans for protection of natural and historic resources and agricultural land; and (4) a plan for a reliable water supply. (§301) Section 301.1 authorizes the inclusion of an energy conservation plan element “which systematically analyzes the impact of each other plan component on present and future use of energy, detailing elements designed to reduce energy consumption and proposing other measures that the municipality may take to reduce energy consumption and to promote the effective utilization of renewable energy sources”.

Article V: Subdivision and Land Development

In addition to requirements dealing with standard site development issues such as lot, street and utility layout, subdivision and land development ordinances may contain provisions “encouraging and promoting flexibility, economy and ingenuity in layout and design”; encouraging the use of renewable energy systems and energy-conserving building design; and authorizing the dedication of land for park or recreational facilities, or the payment of fees in-lieu thereof.

Article VII: Planned Residential Development

The authorization for municipalities to adopt regulations governing planned residential developments has existed in the MPC from its inception. The PRD concept was an early forerunner of today’s principles of sustainability. Properly drafted, the PRD provisions of a zoning ordinance encourage the more efficient use of land through the clustering of dwelling units and the preservation of open



space as an alternative to the large lot sizes and setbacks typical under traditional zoning ordinances. The MPC also authorizes municipalities to adopt “regulations for the height and setback as they relate to renewable energy systems and energy-conserving building design, regulations for the height and location of vegetation with respect to boundary lines, as they relate to renewable energy systems and energy-conserving building design, regulations for the type and location of renewable energy systems or their components, and regulations for the design and construction of structures to encourage the use of renewable energy systems.” (§705)

Article VII-A: Traditional Neighborhood Development

Article VII-A of the MPC takes the legislature’s support of sustainability practices to the next level, authorizing municipal adoption of standards and conditions for mixed-use “traditional neighborhood development.” A TND is defined as “an area of land developed for a compatible mixture of residential units for various income levels and nonresidential commercial and workplace uses, including some structures that provide for a mix of uses in the same building. Residences, shops, offices, workplaces, public buildings and parks are interwoven within the neighborhood so that all are within relatively close proximity to each other. Traditional neighborhood development is relative compact, limited in size and oriented toward pedestrian activity. It has an identifiable center and a discernible edge. The center of the neighborhood is in the form of a public park, commons, plaza, square or prominent intersection of two or more major streets. Generally, there is a hierarchy of streets laid out in a rectilinear or grid pattern of inter-connecting streets and blocks that provides multiple routes from origins to destinations and are appropriately designed to serve the needs of pedestrians and vehicles equally.” (§107) TNDs can arise from new development, as an outgrowth of existing development or as a form of urban infill incorporating existing uses and structures. Among their other attributes, TNDs are designed to be pedestrian-friendly, with sidewalks and/or trails, are designed to encourage use of mass transit and minimize automobile traffic, have common public spaces, are designed to minimize grading, have smaller lot sizes and setbacks, and encourage front porches, alleys and on-street parking. (§§701-A and 706-A)

Article XI: Intergovernmental Cooperative Planning and Implementation Agreements

From a broader planning perspective, the multi-municipal planning provisions of Article XI of the MPC, in conjunction with the comprehensive plan requirements of Article III, are premised on principles of sustainability. The stated MPC purposes for intergovernmental cooperation include, among other things: (1) protection of agricultural land; (2) coordination of transportation needs; (3) efficient development of water and sewer systems; (4) efficient provision of police, fire and other public services; (5) conservation and more efficient use of open space; and (6) facilitation of the development of affordable and other types of housing. (§1101) Multi-municipal or county comprehensive plans may delineate, using these considerations, those areas in which development will be encouraged (“designated growth areas”) and those areas in which it will not (“rural resource areas”). While the multi-municipal planning portions of the MPC do not call out the specific sustainability practices identified in this publication, they do provide the policy support for them.



Sustainability Assessment Case Study

SouthSide Works Mixed Use Retail, Office and Residential Development

SouthSide Works, Pittsburgh, PA

The following assessment is based on the criteria contained in Sustainable Pittsburgh's Sustainability Assessment Checklist found in Appendix A.

The goals that are served by a sustainable development include:

- Revitalization of existing places
- Conservation of open space, historical and cultural assets
- Promotion of equity and diversity
- Reduction of automobile dependence
- Promotion of alternatives to automobiles
- Improvement in air quality
- Use of all possible techniques to minimize greenhouse gas emissions
- Improvement in water quality
- Conservation of tax dollars
- Increase in citizens' sense of community and participation

SouthSide Works, developed by the Soffer Organization, is a new, multi-use development located on the site of a demolished LTV steel mill within the city of Pittsburgh. The retail, office and residential uses are mixed on the 34-acre site.

Sustainable Attributes

1. Site selection

- This is a brownfield development on the site previously occupied by a steel mill. As such the re-use of the site is consistent with a major attribute of sustainable development.
- This development is integrated with the existing historic South Side community which abuts it to the south and west.





2. Site preparation

- The site had been occupied by a steel mill. The owners removed the buildings but the developer was responsible for underground issues. Rather than dig out old foundations and ship them away, the developer crushed them and recycled the material as engineered fill.
- An old railroad tunnel that served the mill was incorporated by the developer as the tunnel park amenity.
- The developer intends to evaluate the incorporation of an old riverfront pump house in the riverfront park as a means of interpreting the previous mill use.

3. Infrastructure

- The infrastructure serving the site including roads, water and sewer was not available. New roads, water and sewer lines were installed due to the fact that the site was formerly occupied by an industrial use.
- Storm and sanitary sewer lines were separated as part of the new development.
- The site abuts the Monongahela River along which the Pittsburgh Urban Redevelopment Authority has constructed a bike/walking trail.
- Because this development is embedded in an existing community the social infrastructure such as police, fire and library services already exist.



4. Site design

- The building height, style and use of brick respect the context of the abutting South Side community.
- The mixed use development exceeds the criterion of the City of Pittsburgh's Floor Area Ratio (F.A.R.) of at least one to one. This indicates an intense and efficient use of the site.
- Pedestrians are accommodated by the use of sidewalks of generous width, traffic calming devices and clearly marked pedestrian crossings with disability access ramps throughout.
- To enhance the pedestrians' experience electrical transformers and switches were placed underground.
- Utility wires are also underground.
- Unsightly gas meters were placed on the roofs.



- The streets are laid out in a grid pattern as extensions of the existing community pattern.
- Street trees line most of the streets. Additional vegetation is apparent in the public open spaces.
- The streets are pedestrian friendly. The streetlights are of pedestrian scale and the stores have attractive window and lighting displays.
- Of the 34 acres occupied by the development eleven are open spaces usable by the public of which six are landscaped.
- The development includes a public use pavilion, seating and other amenities overlooking the river as well as public access to the riverfront.



5. Transportation

- The site is served by buses using Carson and Sidney Streets.
- The developer prepared and the city adopted parking guidelines that reduced the number of spaces required. This was accomplished by a sharing concept that, for example, made the space used by the daytime office worker available for evening/night use by the entertainment and dining patron and the apartment resident.

These two attributes serve to lessen auto dependence and to promote public transit thus reducing the development's carbon footprint.

- Parking is contained in attractively designed garages of a scale that is consistent with adjacent uses.





6. Housing

- Although SouthSide Works contains a modest amount of housing, an abutting multi-story housing development was developed concurrently. This enhances the opportunity for a self contained live-work-play environment which reduces auto dependence and thus, the carbon footprint of the total development.

7. Buildings

- The site is consistent with many of the Leadership in Energy and Environmental Design - Neighborhood Development (LEED - ND) criteria for green neighborhoods but was under development before the publication of these criteria by the United States Green Building Council. However, individual buildings may seek designation.
- A key tenant (REI) has received a silver designation for their commercial interior (LEED - CI) and an office occupant, the Maya group, is preparing documentation for LEED certification.

8. Community character

- The mixed-use development and adjacent residential development are walkable.
- The developer targeted uses such as coffee shops, restaurants, entertainment venues and a book store that support community building and non-auto dependent live-work-play opportunities that are attributes of sustainability.
- Signs are flush with the building, on awnings or protrude minimally from the building. Use of diverse sign designs governed by the development's Design Guidelines respects the character of the existing South Side community.
- Parking is contained in structures rather than consuming large amounts of surface area. Use of structure for parking increases walkability of the site and decrease stormwater runoff.
- Street trees and furniture are placed throughout the development.
- The site contains pedestrian lighting as well as street lighting.
- Although the individual buildings exhibit diversity of design, the scale and materials of the buildings respect the urban character of their South Side community.
- A focal point is the square located in the center of the development which is used to create a sense of place. This area contains fountains, benches, landscaping and a performance stage.





Attributes Less Consistent with Sustainability Principles

Site preparation and design.

- Stormwater is transported off site in pipes in contrast to the preferred manner of disposal by infiltration.
- At this time, the total development does not offer a range of housing types. All units rent at the higher end of the market. The retail and service work force could probably not afford to live there. However, the office workers might find the units within their financial range.

Summary

On the whole this development ranks high on the sustainability attributes and is a good model for other development of this type in the Pittsburgh region.



Sustainability Assessment Case Study

Office Park and Mixed Use Developments

The following assessment is based on the criteria contained in Sustainable Pittsburgh's Sustainability Assessment Checklist found in Appendix A.

The goals that are served by a sustainable development include:

- Revitalization of existing places
- Conservation of open space, historical and cultural assets
- Promotion of equity and diversity
- Reduction of automobile dependence
- Promotion of alternatives to automobiles
- Improvement in air quality
- Use of all possible techniques to minimize greenhouse gas emissions
- Conservation of tax dollars
- Increase in citizens' sense of community and participation

Two different developments were evaluated both of which occupy land that previously housed industrial uses.

Sustainable Attributes

1. Site selection. Selecting a site in or adjacent to an existing developed area either through infill or brownfield development - sites that had been previously developed - serves a number of the goals listed above. Below are illustrations of two such brownfield sites. In one case this is especially notable because the previous use as a stock yard and rendering plant produced substantial ground contamination. This contaminated earth was removed elsewhere on the site and capped with a tennis court.



Another benefit of most brownfield developments is their proximity to an existing work force. This is important to employers seeking workers and especially those who may lack transportation to access a distant, greenfield development. This is illustrated in one case below by adjacency to an established neighborhood.

Even if an auto is used to access a job, employment opportunities located within or adjacent to an existing place can reduce the commute thus conserving energy and reducing the greenhouse gas emissions.



2. Site preparation. Both of these development sites were relatively flat. Therefore, with the exception of the ground remediation work discussed above, re-shaping the existing land form was not necessary. Both sites were without valuable vegetation but in both cases, substantial re-vegetation took place. Sustainability requires that land not be significantly altered from its natural form and that trees not be removed except for building footprints and essential utility, pedestrian and vehicular access, and then be replaced elsewhere on the site.



3. Infrastructure. Due to the nature of the previous development on both sites, existing underground infrastructure such as water and sewer service were available. Also, because both sites were situated in or adjacent to existing communities the social infrastructure such as police and fire service were available.



The sites are also notable due to extensive re-vegetation which encourages infiltration of storm water. This is a clearly preferable approach in contrast to constructing and having to maintain extensive piping to carry storm water off site.



4. Site design. Sustainable site design calls for high density and intensity of buildings and the retention of substantial green and open space as illustrated below. Minimal setbacks from the street and sidewalk with parking in the rear or to the side also contribute to a pedestrian rather than automobile orientation.



Pedestrian accommodation is also illustrated by the tree lined sidewalks and pathways enhanced with trees, shrubs and flowers. In one case substantial vegetation on the river side of the trail also serves to trap any potential contaminants before reaching the water. Accessible and physically distinct sidewalks at crosswalks enhances safety especially for persons with disabilities and those pushing a child's stroller.



5. Transportation. Bus service and the adjacency of a walking and biking trail provides an alternative to auto dependency and thus reduces a development's carbon footprint. However, when auto parking is provided, sustainability calls for parking solutions that minimize the amount of non-pervious surface on the site thus promoting the desired infiltration of stormwater in contrast to piping it off site.

6. Housing

One of the sites contains a townhouse development. This enhances the opportunity for a live-work environment which reduces auto dependency and carbon footprint.

7. Buildings. Multi-story buildings such as those found on these sites serve sustainability principles also by reducing the non-pervious coverage of the site created by sprawling one-story structures.

8. Community character. This concept can be difficult to define. However, attention to good design of elements such as signs and street furniture, compatibility with the larger context and accommodation of people combine to produce a place that most people find pleasant and comfortable rather than ugly and intimidating. Sustainability attributes are illustrated by the images below.

Although a site may be dedicated primarily to office or industrial use, a mix of uses and amenities such as both active and passive recreational opportunities and picnic benches will serve employees and visitors well.

Attributes less compatible with sustainability principles

- Many office parks consume vast amounts of space for each building. As illustrated below this results in long distances between buildings and amenities such as lunch options or convenience shopping opportunities. Often, these facilities are not connected by sidewalks. Also, often, these open spaces are consumed by surface parking lots.





Tall and large signs too often distract from the aesthetic appeal of good architecture and professional landscaping while providing minimal functionality for those who are well aware of the facilities' locations.

This type of site layout has a number of negative results:

- A surface parking lot for each building results in exacerbating stormwater runoff. A better solution would be to cluster the buildings around a shared parking garage.
- The long distances between buildings and amenities result in having to drive everywhere. This results in more air pollution and greenhouse gas emissions, contributes to energy consumption, while diminishing the healthful benefits of being able to walk to nearby destinations.
- Even if some choose to walk, with the absence of sidewalks they are exposed to the danger of having to share the road with vehicles or blaze trails through the vegetation.



Appendix A

SUSTAINABILITY ASSESSMENT CHECKLIST

The following checklist is designed to be of assistance in evaluating specific development proposals for performance in reflecting characteristics of smart growth and sustainable development and that are supported by a broad and diverse base of stakeholders. This checklist can be very helpful when endeavoring to assess or rate proposed development projects, to recognize excellence, and to simply inform and educate citizens, public and elected officials, developers and others of the advantages sustainable development brings to a community. We also recommend incorporating these principals in your zoning and subdivision/land development ordinances.

This checklist is intended to facilitate analysis of proposed development relative to the following sustainability goals:

- Revitalization of existing places
- Conservation of open space, historical and cultural assets
- Promotion of equity and diversity
- Reduction of automobile dependence
- Promotion of alternatives to automobiles
- Improvement in air quality
- Use of all possible techniques to minimize greenhouse gas emissions
- Improvement in water quality
- Conservation of tax dollars
- Increase in citizens' sense of community and participation

Attributes of development to be evaluated are listed below. Each attribute is accompanied by several suggestions that help to illuminate the degree to which a proposed development is moving the community toward sustainability goals.

1. Site selection. Sustainability is advanced when development takes place in or adjacent to existing developed places. This saves tax dollars by using often underutilized infrastructure. Also, this approach provides better opportunities for lower income and, often, minority residents to access new jobs more easily. Finally this approach saves open, green space and mitigates sprawl induced air and water pollution and energy use. Thus, sustainability is optimized when development takes place:

- by infill within an existing community
- on a brownfield site
- on a greyfield site

Developments on a greenfield site or which intrude on farm land are inconsistent with the principles of sustainability.

2. Site preparation. Regardless of where a development is located the principles of sustainability call for:

- use of existing land form—no or minimal grading
- tree removal only for the building footprint and essential utility, pedestrian and vehicular access
- tree replacement on site on a one to one basis
- tree replacement off site on a two to one basis or payment of a fee in lieu thereof
- mitigating impact on environmentally sensitive areas including water bodies and water courses, slopes over 25 percent, flood plains and aquifer recharge areas
- preservation of flora and fauna habitat and migration corridors



3. Infrastructure. Use of existing, often underutilized, infrastructure saves tax dollars not only for residents of the given municipality but also statewide because fewer municipalities will need to ask for state help to remain viable. Therefore, sustainable developments take advantage of:

- available and sufficient roads and water and sewer lines to the site
- sufficient capacity of community services such as schools, libraries and parks
- containment of storm runoff on site via infiltration such as by the use of bio-retention basins in parking lots

4. Site design. In order to achieve the goal of contributing to community building and resource efficiency, sustainable site design promotes density in development. Designing for promoting human interaction is key with for example, preference to pedestrians and other non-motorized transportation. Also sustainable design provides substantial green space for active recreation as well as passive enjoyment of natural assets. Attributes of sustainable site design include:

- use of "Conservation by Design" development process and plan. This approach calls for conservation of environmentally sensitive areas and historic and cultural sites, and clustering of development to permit the retention of a significant amount of open space for the enjoyment of all citizens. (For details see, Conservation by Design for Subdivisions by Randall Arendt.)
- minimal (e.g. 15 feet) residential front yard setbacks and zero feet for retail
- commercial and institutional density of a Floor Area Ratio of at least one
- sidewalks on both sides of the street throughout
- disability accessibility/visitability to all structures and uses
- walking and biking trails that connect to community destinations with bike lockers
- alleys
- placement of utility lines underground and in alleys
- eighteen foot residential cartways
- residential garage access only from alleys
- vegetated buffers around waterways, and water bodies including wetlands
- preservation of flora and fauna habitat and migration corridors
- regulation of impact on environmentally sensitive areas including water bodies and water courses, slopes over 25 percent, flood plains and aquifer recharge areas
- transit oriented development
- provision for mix of compatible uses
- grid-like street pattern
- street trees
- walkable streets in non-residential areas such as transparent glass at commercial/retail street level and comfortable street furniture
- traffic calming techniques to favor pedestrians
- ensuring that workers can live near their workplace



5. Transportation. Sustainable development requires the smallest possible carbon footprint by emphasizing walking and other non-motorized types of transportation for local trips and transit for longer ones. This can be supported in the following ways:

- maximum ¼ mile access to transit
- nodal commercial, institutional and industrial development with no more than two common road ingress/egress points
- access to pedestrian, bicycle, transit facilities
- minimal use of surface parking where transit is available
- creative solutions to reduce parking footprint

6. Housing. Community building calls for interaction by a population marked by income, racial and ethnic diversity rather than the islands of homogeneity that characterizes most suburban subdivisions. Sustainable attributes include:

- affordability – a minimum of 15 percent of any new development to be affordable to low-moderate income persons
- diversity of housing types
- quality design, materials, and appliances
- housing near jobs at a price the employees can afford

7. Buildings. Sustainability includes conserving energy and promoting public health by being attentive to building orientation and the materials that are used for building and renovation. Some ways that buildings can be consistent with principles of sustainability include:

- use of green materials, machinery and equipment that will mitigate carbon footprint
- use of building materials and furnishings that do not endanger human health
- use of recycled materials, energy and renewable resources
- locating and orienting structures to take advantage of natural heating, cooling and buffering opportunities

8. Community character. This somewhat difficult to define attribute is a powerful factor in determining whether we find places attractive and comfortable rather than, for example the harshness that characterizes many commercial strips. Attributes promoting sustainability include:

- in commercial, institutional and industrial areas only non-illuminated monument signs in the range of five feet high and six feet wide
- commercial, institutional and industrial uses locate parking in rear of buildings
- in commercial areas street furniture is provided including benches and integrated lights, signals and boxes
- community spaces are provided such as public plazas, squares, civic space and small parks
- new structures respect the height and bulk of surrounding buildings
- residential setbacks respect that of buildings on the same block
- extensive opportunity for public participation in the development design process



Appendix B

A Comprehensive Sustainability Checklist (relevant to all types of decision making and investments)



Sustainable Communities 500 - Sustainability Checklist

Reference copy, feel free to duplicate and distribute for on-going use as a decision-making tool.

Does the project:

ECONOMY

Employment:

- work to reduce the percent of people living in poverty?
- produce long term jobs (wage and benefits)?
- help community-based businesses grow?
- purchase locally made goods?
- advance health and efficient "green" buildings?
- involve businesses helping to support the community?
- involve businesses contributing to a clean and healthy environment?
- create jobs close to where people live?

Cost of Living

- promote self-sufficient behavior (gardening, decreased energy usage, etc.)?
- save money or reduce costs?
- advance intergovernmental cooperatives as means to improve services and reduce costs?

Mobility

- encourage use of public transportation to connect workers to jobs?
- encourage carpooling?
- improve walking and cycling conditions?
- reduce traffic congestion?
- reduce pollution from vehicles?

**Housing**

- combat homelessness?
- help to create a wider range of affordable housing?
- increase home ownership?
- improve the quality, energy efficiency, and/or upkeep of current housing stock?
- locate housing/jobs/services within walking distance and public transportation?

NATURE**Ecosystem Health**

- create, save, reclaim, or maintain a healthy habitat for native species of plants and animals?
- encourage a positive attitude toward environmental stewardship?

Air Quality

- reduce or absorb air pollutants like particulate matter, greenhouse gases, sulfur dioxide, carbon monoxide, nitrogen dioxide, or ozone?

Energy Use

- decrease overall energy consumption, develop a local energy distribution system?
- increase the percentage of energy consumption coming from clean energy such as natural gas and renewable sources such as wind, biomass, hydropower, or solar?

Land Consumption

- re-develop or efficiently use previously developed land or vacant properties?
- preserve the cultural and historic heritage of a community?
- save farmland or other undeveloped land?
- steer development or growth to most appropriate places?
- mitigate impacts of growth and development to neighboring communities?
- advance mixed use development projects?

Water Quality

- improve the quality of streams or watersheds for recreation and other uses?
- implement a water conservation program?
- address more effective stormwater management?



Waste and Recycling

- reduce, reuse, recycle resources, and minimize waste?
- increase the use of recycled products or increase demand for projects designed to use fewer and less harmful materials?

SOCIETY

Crime

- minimize crime?
- increase awareness about crime prevention?
- improve street-scaping, graffiti elimination, trash removal, etc.?

Education

- supplement basic education with activities such as after-school programs, teacher training, etc.?
- improve the infrastructure and services provided at schools?
- help children prepare for school?
- reduce drop-out rates or encourage students to return to school?
- increase access to information like the Internet, library services, etc.?

Sense of Community

- increase interaction among residents and neighborhood groups?
- provide opportunities for volunteerism?
- provide opportunities for diverse groups to have input on and evolve solutions to community challenges?
- address community beautification (art, gardens, green space, etc.)?
- increase access to the arts or outdoor leisure activities?
- demonstrate corporate/business social responsibility?

Voting Participation

- encourage voter registration and participation?
- encourage participation in the electoral process besides voting, such as running for office or volunteering?



WELL-BEING

Health and the Community

- take measures to reduce factors that contribute to ill health (poverty, diet, lifestyle, stress, and pollution)?
- provide activities or facilities for citizens to exercise?
- provide healthy and safe working environments?
- provide locally grown food?
- use outdoor recreation as a means to health and community building?

Social Equity

- provide opportunities for all and narrow the gap in access, services, quality of care, etc.?
- promote diversity?
- assist disadvantaged groups?

For more information on Sustainable Communities 500 and the Sustainability Checklist, go to www.sc500.org or call 412-258-6642.