

# Sustainable Communities: A Way for Everyone to Win?

*Activities from Project Learning Tree focusing on fuel economy, alternative means of transportation and what can be done to improve it.*

**Target Level:**

High School (9-12)

**SOLs:**

History and Social Science  
10.4, 10.6, 10.9, 10.10,  
10.12, 10.13, 10.15, 11.18,  
12.6b, 12.6c, 12.6d

**Subjects Covered:**

Sociology, Economics,  
Environmental Studies,  
Current Affairs

**Skills:**

problem-solving, analysis,  
cooperation, evaluation

**Key Terms/Concepts:**

- sustainable communities
- economy
- environment
- social climate

**Materials Needed:**

- Handouts of Activity A
- Handouts of Activity B

**Unit Overview**

This unit is designed to help students grasp one of the central concepts of sustainable development; that economic, environmental and social issues are interdependent. Sustainable solutions are ones that provide win-win outcomes and balance these three areas of consideration wherever possible.

The purpose of the lessons in this unit is to give students an opportunity to experience problem solving that promotes sustainable outcomes. Students will then apply this approach to problem solving and development in their own community.

**Using the Unit**

Students will discuss how the lessons of this exercise might be applied to sustainable community development and problem solving. The first activity allows students to see how utilizing a win-win approach to problem solving is working in some exemplary communities around the nation and the world. They examine these cases and analyze how the lessons from the exercise are illustrated in each case.

In the second activity students assess opportunities for creation of sustainable solutions in the context of their own community and develop simple proposals communicating their ideas.

**Background for Teachers**

What is a “sustainable community”? Specific definitions vary, but generally sustainable communities are ones that manage to stay healthy and vital over the long term. Their citizens enjoy living in these communities and are able to meet basic needs for employment, education, health, safety, consumption of goods and services, and preservation of their environment, aesthetic beauty and quality of life. Some actions and patterns of development tend to promote sustainability over the long term and others detract from it. It is the job of citizens and community leaders to assure that decisions made in the community will promote long-term benefits to the community as a whole.

Sustainable development provides a model for community development and problem solving that promotes creation of sustainable communities.

The first step in working towards sustainable community development is recognizing that a healthy community, over the long term, depends upon economic opportunity, environmental quality and social harmony in equal measures; ultimately, success in each arena depends in large measure upon the success of the other two. A community may be able to thrive for a period of time in an atmosphere of rapid growth and industrial expansion without consideration for environmental or social consequences, but ultimately problems



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in these areas will emerge and cloud the benefits of such development. Communities have followed such unbalanced patterns for centuries and history shows us the consequences in case after case.

Sustainable development requires that we think about community development in a broad scope and over a long period of time. Rather than simply planning for the next five or ten years, it requires considering the next fifty or one hundred years in our decisions and planning. It requires creation of solutions and opportunities that provide for win-win outcomes rather than win-lose ones.

Sustainable models of development seek to produce economic gain while preserving habitat, minimizing harm to the natural environment and promoting social harmony. But these goals must be taken into consideration in the planning phases of development in order to be most effective. Sustainable development requires that we think about development in a whole new way, considering the long term consequences of our actions and seeking solutions that do not require sacrifice of one important goal to achieve another.

Traditionally communities have often felt that it was necessary to trade-off one benefit for another in the process of community development, such as communities who felt that environmental quality or preservation of open space was a necessary sacrifice in order to assure adequate jobs for residents and substantial economic growth.

An alternative approach that has the potential to lead to more sustainable outcomes is to look at the big picture and seek out ways for multiple parties to be made better off simultaneously. The following activities give some examples of how this approach is working in three different communities.

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## Learning Objectives

- Solve a problem using cooperative methods.
- Analyze application of sustainable solutions to community development in several contexts.
- Analyze local communities for their strengths and weaknesses in terms of sustainability.
- Generate ideas for promoting sustainable development in the local context.

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## Procedure

### **Activity A:**

1. Handout *Activity A: "What Makes a Community Sustainable"* to the class and have them read the introduction and case studies in class or for homework.
2. When students have read the piece facilitate a class discussion highlighting the ways that each case illustrates "win-win" solutions to various problems.

### **For example:**

In Case 1 – the business initiatives being implemented with the help of the ASD (Appalachian Sustainable Development) address the fundamental economic problem of unemployment by creating new jobs for community members. The environment is protected because the jobs that are being created – organic farming, marketing, sustainable forestry, woodworking and solar drying – are all enterprises that have minimal negative impacts on the environment relative to more traditional income generating enterprises. Social needs are being better met because higher quality foods are made available in the local market, personal health is likely to improve with less exposure to hazards in the workplace and with increased incomes local communities will have more revenues to provide for improvements in housing, healthcare, transportation, education etc.

**Activity B:**

1. Hand out the *Activity B* worksheets to the class. Class members may work individually, in teams or collectively as a class on this portion of the unit.
2. In the first part of the activity students are asked to use their own observations and experiences to describe the health of their local community in terms of economic, environmental and social factors. They are to use the table provided to jot down their observations.
3. When each individual or team has had a chance to fill out the table, facilitate a class discussion in which students can share their observations with one another. Is there any general agreement about community strengths and weaknesses? If there is disagreement explore why this might be. We all see the world through different eyes and what one person may consider a problem (large impersonal strip malls surrounded by seas of asphalt), others may see as a benefit (lots of exciting shopping opportunities that are easy to access by car). Allow students to maintain these different points of view and explain that this is one of the real challenges that face communities in finding sustainable solutions to problems.
4. Now have individuals or groups use the information generated in the Community Characteristics table to brainstorm some ideas for possible solutions that represent win-win outcomes for their community. Have them outline the idea and in the Opportunities and Solutions table on page 9. Students should be given several days to generate their ideas.
5. When students have completed this portion of the activity, allow them to share their ideas with the class. Or collect the worksheets and choose a few ideas that seem particularly well thought out for presentation before the class.

Have students evaluate all of the various ideas presented in Activity B and chose one which might actually be implemented successfully in the community. Have students develop a formal proposal based upon the idea and find a public forum in which to present the proposal. This might be before a local government body, a local civic group or a foundation that gives funds for community projects.

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**Additional Resources****Publications:**

- Bernard, Ted and Jora Young. *The Ecology of Hope: Communities Collaborate for Sustainability*.
- Roseland, Mark. *Toward Sustainable Communities. Resources for Citizens and their Governments*.
- *This Place Called Home: Tools for Sustainable Communities* (CD ROM) Alliance for Community Education.

**Websites:**

- Center of Excellence for Sustainable Development – [www.sustainable.doe.gov](http://www.sustainable.doe.gov)
- Center for Livable Communities – [www.lgc.org/clc/](http://www.lgc.org/clc/)
- Center for Neighborhood Technology – [www.cnt.org](http://www.cnt.org)
- Coalition for Environmentally Responsible Economies (CERES) – [www.ncat.org](http://www.ncat.org)
- Institute for Sustainable Communities – [www.iscvt.org](http://www.iscvt.org)
- International Council for Local Environmental Initiatives – [www.iclei.org](http://www.iclei.org)
- Rocky Mountain Institute – [www.rmi.org](http://www.rmi.org)
- Sustainable Communities Network – [www.sustainable.org](http://www.sustainable.org)

# Activity A: What Makes A Community Sustainable?

## Enrichment

Think of a sustainable community as something like a three-legged stool, where each leg represents a different element of community health and vitality. One leg represents a thriving local **economy** that can provide good jobs, wages and high standards of living for residents now and into the future. A second leg represents a healthy **environment** in which air and water are clean, natural habitat and biodiversity are preserved, open-space is protected, waste is minimized and natural resources are managed well and can provide for the needs of humans and other living things for generations to come. The third leg represents a high-quality **social climate** where human needs for health care, safety, transportation, education, recreation, community cohesiveness, beautiful surroundings, access to resources and resident participation in local decision making are all met successfully.



When each of these legs is equally sturdy and strong, the stool functions very well. When even one leg is damaged or broken, the stool will become unbalanced and is likely to fall. In sustainable communities the goal is to keep all three of these “legs” strong and balanced over the long term. When a community concentrates its entire focus on only one of these “legs,” problems inevitably arise. A community that sacrifices its environmental health for the sake of economic expansion may seem to benefit in the short run but eventually they may find that pollution, health and perceived quality of life problems begin to make their community an unattractive place to live. Eventually local businesses may have a hard time attracting good employees and may even be forced to relocate, hurting the local economy in the process. The same could be said for a community that has such restrictive environmental regulations that all economic growth is suffocated. Poor communities do not have funds to protect or enhance the local environment. Or a community that spends so heavily on creating an attractive social climate that they are forced to maintain sky-high tax rates on local businesses and residents, giving them an incentive to move away.

Smart communities know that keeping a balance between these three key areas is the best way for them to thrive over the long term. The difficult part comes in putting these ideals into practice in a consistent way. The truth is that the process of making communities more sustainable is a difficult one that does not have a clear endpoint. It is a constantly evolving process. However there are a number of examples from Virginia, the nation and the world of how communities are making concrete strides towards greater sustainability through development of “win-win” solutions, applying the same strategy of cooperative and integrated problem solving that you explored in the previous exercise. In each of the following examples, think about how the solutions represent win-win outcomes that seek to strengthen more than a single “leg” of the stool.

# Growing Sustainable Businesses: Southwest Virginia

## Case Study 1

Many of the rural Appalachian communities of Southwest Virginia and Northeast Tennessee have traditionally sustained themselves through mining, oil and gas extraction, milling, logging and tobacco production. Yet extremely high unemployment and poverty rates in the area prevail in recent times, with nearly 40% of residents in one county living below the poverty line. These traditional enterprises have created problems of waste disposal, water and soil contamination, land subsidence, soil erosion, industrial emissions problems and water table declines. The conditions in this area have generated a sense that communities must make a choice: “jobs or the environment.”

A regional non-profit organization, Appalachian Sustainable Development (ASD), has been working with these communities to present another alternative to solving the “jobs or environment” problem, through creation of locally based, ecologically healthy enterprises. The goal is to diversify the economic base of these communities and increase their regional self-reliance sustainably. To this end local Appalachian communities are being supported through the work of the ASD and other organizations in creation of organic farming operations, marketing associations that link sustainable farmers to restaurants, health food stores and a locally owned grocery chain, timber operations and wood manufacturing firms that employ sustainable harvesting practices and create high-value wood products, solar drying kilns for local hardwoods and a series of demonstration farms and ecologically sound timber harvesting sites that function as part of a local education network. The hope is that, over time, creation of such enterprises and value-adding facilities will increase jobs and revenue retained in local communities while reducing destructive influences on local environments.

# From “Americas Dirtiest City” to “Best Mid-sized City in America”: Chattanooga, Tennessee

## Case Study 2

In 1969 Chattanooga earned the distinction of being labeled “America’s Dirtiest City.” Air pollution from TNT factories and steel foundries gave the sky a permanent orange tint and cars used their headlights in the middle of the day to make their way through the smog. Its residents faced deep problems of job layoffs, a deteriorating city infrastructure, racial tensions and social division and the city faced an identity crisis, being labeled an “invisible city” with no real image.

This period of crisis motivated residents, community leaders and local government to come together to create the Chattanooga Venture – a nonprofit organization with the goal of cleaning up the city on all fronts: environmental, social and economic. Out of this came a project called “Vision 2000” which brought together more than 1700 people in 1984 to develop a set of 40 goals for the city to achieve by the year 2000. The goals focused on six key areas: future alternatives, places, people, work, play and government. Today many of the original goals have been realized. The projects that have been realized to bring Chattanooga to this point are varied in scope but all work to create a more sustainable community as defined by the people who live there.

One of the most successful projects has been Chattanooga’s electric bus initiative, which evolved as a way to cut down on traffic, congestion and pollution, automobile dependence and the need for expansion of downtown parking facilities. A private company was formed to produce the buses and the system began operation in 1992. Ridership is now up to more than 1 million passengers per year and is credited with contributing to a revitalization of the downtown business and shopping district. The system was designed to encourage shifting riders from their cars to the buses to cut down on traffic and pollution.

A second project that has met with great success was the creation of a Riverwalk along the Tennessee River passing through the city. Riverwalk is a continuous circuit of parks, trails, and landmarks that stretches for miles through the city. It serves as a catalyst for outdoor activity and a pedestrian link for the citizens of the community. Gradually it has contributed to the riverfront becoming a focal point of the city again, boosting the revitalization of the downtown area and leading to creation of a

Tennessee Aquarium educational center that hosts thousands of visitors a year.

The Environmental City Project is working to attract “clean industries” to the area and to retain environmentally sound businesses as well as increase overall environmental awareness throughout the city.

The Orange Grove Materials Recovery Facility employs mentally challenged adults in operating a recycling center, and handles the recyclable goods of the entire region at approximately one-tenth of the cost of facilities in similar sized cities.

These are just a few of the examples of the initiatives that have been implemented over the last decades and this process continues with a second round of the Vision 2000 project called “Revision 2000” to develop a new set of goals for the next decade. Chattanooga is now striving to be labeled the “Best Mid-sized City in America” and to provide examples, models, and vision for its residents and others from around the world that are working for sustainable communities.



# Transportation Innovation: Curitiba, Brazil

## Case Study 3

Curitiba, Brazil, a city of 1.6 million people, has managed to avoid the traffic congestion and pollution woes of its neighbor to the north Sao Paulo. Seventy-five percent of the city's commuters use public transit and traffic has declined by 30 percent since 1974 although the population has more than doubled.

The key to this success can be traced back to the vision of Jaime Lerner, the former mayor of the city who saw that the future was likely to lead to massive traffic congestion back in 1971 if something was not done to stem it. In reaction to this threat he implemented land use

policies that encouraged growth along five major corridors that extended out from the city center like bicycle spokes so that

population growth would be concentrated in specific areas rather than spread out haphazardly across the

landscape. This strategy supported development of a comprehensive mass transit system that

was a kind of hybrid between a bus and subway system. The cost of building this

"surface subway" was much less than

creating a rail system but it was designed in such a way that loading and unloading could

be done quickly and buses traveled along expressways that kept them from having to

compete with other traffic. The system has allows workers to travel quickly and cheaply

from homes to jobs in the city, per capita fuel

consumption in Curitiba is 25 percent lower than

elsewhere in the country and the air is among the Brazil's cleanest.



# Activity B: Community Profile and Sustainable Solutions.

## 1. Community Characteristics:

In small groups or as a class use the following guidelines to produce a characterization or “snapshot” of your community based upon your own observations and experiences. In some categories you may find both assets and drawbacks, in others you may find only good qualities or problems.

	Assets	Drawbacks
<b>Economic</b>		
Employment and Business		
Costs of Living		
Transportation		
<b>Environmental</b>		
Environmental quality. (Air, water, soil, forests, wild areas etc. )		
Parks, Green-ways Bikeways		
<b>Social</b>		
Neighborhoods and Housing		
Social services (Fire, rescue, police, schools, municipal rec. facilities etc.)		
Recreation opportunities.		
Community cohesiveness and tolerance.		
Other issues:		



