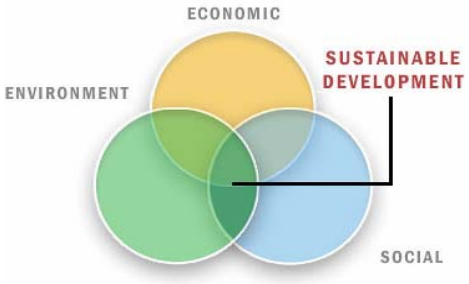
SUSTAINABILITY

Connecting Cleveland
2020 Citywide Plan

SUSTAINABILITY

OVERVIEW

What is a Sustainable Cleveland?



Sustainability is commonly defined as the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs. Three overarching objectives of sustainability are known as the *Three E's* – **E**conomic Prosperity, **E**nvironmental Quality and Social **E**quity / Equal Opportunity. The *Connecting Cleveland 2020 Citywide Plan* seeks to recreate a city that considers the *Three E's* in all decision-making for today and tomorrow.

Because past generations viewed natural resources as limitless, nature was something to be tamed and served as a dumping ground for myriads of waste, today we must address the consequences of actions that have, in fact, compromised our "present." These consequences include, among others, contaminated brownfield sites, urban sprawl, over-dependence on the automobile, energy-wasting buildings, poor air and water quality, and unhealthy lifestyles associated with unhealthful development patterns. If we are wasteful and polluting of our local environment, we not only harm our own public health and the resources we depend upon to survive, but we add to global environmental and health problems.

Cleveland's high profile icon of sustainability. [The Great Lakes Science Center's Wind Turbine, Downtown]

Sustainability, however, requires even more than protection of our natural environment and our physical health. Just as important is the commitment to the minds of our children and all Clevelanders – providing them with the education that will enable them to adapt to ever-changing economic and social circumstances. In this sense, an educated community is a sustainable community, just as much as a healthy community is a sustainable community.

Where We Are with Sustainability

A trend toward urban living in cities like Chicago and Columbus and thriving neighborhoods in Cleveland, like Tremont and Ohio City, show us that we need to have the tools and diversity of housing stock in place to attract people to the City.

Although Cleveland's population continues to decline, we have many assets to build off of in order to bring people back to the City. Cleveland already has an urban form that can accommodate much more density and liveliness. Developing in urban environments is inherently sustainable rather than building on undeveloped land ("greenfields") in the outer suburbs, because the infrastructure (which is costly to construct and maintain) is already in place as is the older building stock that can be rehabilitated and re-used. The City Planning Commission has been working to create mixed-use neighborhoods that are pedestrian friendly, bicycle friendly and transit-oriented to make Cleveland a more competitive place to live, work and visit.

A major portion of that work has been amending the City's zoning code to promote sustainable development ("smart zoning"). For years Cleveland's zoning code has been much more accommodating to mixed-use land use patterns as compared to many other cities because of the "pyramidal" nature of the regulations. That is, uses which are considered more intense (e.g. industry) are not allowed in districts zoned for less intense uses (e.g. residences), but less intense uses could be developed in districts zoned for more intense uses. For example, a district might be zoned for retail, but the zoning would allow single-, two- or multi-family uses to be developed there. To further promote sustainable development the City has recently made the following changes to the zoning code:

- **Open Space & Recreation (OSR) District** – New zoning classification to protect and make permanent public parks, community gardens, open spaces and natural areas for recreation, scenic and environmental enhancement (Chapter 342).
- **Midtown Mixed-Use District** – New form-based zoning district to encourage dense, compact land development with a pedestrian-oriented mix of uses and design criteria set to complement the Euclid Corridor Transportation Project investment (Chapter 344).
- **Live-Work Overlay District** – New overlay district that permits the re-use of older, under-utilized industrial buildings for a combination of living and working space, even in industrial districts that otherwise prohibit residential use (Chapter 346). Recycling existing buildings uses less energy and resources than building new, and capitalizes on construction quality far superior to what is typically constructed today.
- **Business Revitalization Districts (BRDs)** – Districts with neighborhood-level design review committees that mandate the review of all exterior building and site modifications to ensure compatibility with each specific neighborhood's historic character. BRDs play an important role in protecting the density, balance of uses and pedestrian orientation that make these communities sustainable. In 2006, there are 17 BRDs established in the City. (Chapter 303).
- **Pedestrian Retail Overlay (PRO) District** – Zoning overlay district created to preserve the pedestrian-oriented character of our unique shopping districts, accomplished through regulatory tools addressing building placement, use, reduced parking requirements, etc. (Chapter 343.23).
- **Downtown Surface Parking Lot Prohibition** - Prohibits new surface parking lots in the core of downtown to preserve downtown's urban architectural character (Chapter 349.14).
- **Urban Lot Sizes** – Amendment to Cleveland's subdivision regulations allowing the creation of "substandard" lots (e.g., lots that are smaller than otherwise required) where such small lot sizes are characteristic of many of our older, urban density neighborhoods (Chapter 309.26).
- **Urban Townhouse District** – New zoning district created to ease the approval process for townhouse developments of varying densities. Townhouses are an urban housing form underrepresented in Cleveland's housing stock (Chapter 337.031).

This park conversion is a wonderful, green respite for downtown workers from the concrete parking lot that stood in its place in 2005. [Mall C, Downtown]

- **Planned Unit Development (PUD) Overlay District** – New overlay district which provides zoning flexibility in return for innovative site planning and urban design amenities (Chapter 334).

In addition to changes to the zoning code, the City has undertaken a number of other initiatives to promote sustainability.

- The City has created the positions of **Sustainability Programs Manager** and **Land Revitalization Manager**, two important jobs aimed at reducing costs by ensuring that resources are used efficiently and that contaminated lands are cleaned and put back into productive use.
    - Many projects have resulted from these two positions including construction and demolition debris recycling in the Division of Water; the City's 2006 Anti-Idling Policy for City vehicles; the purchase of hybrid City vehicles (32 hybrids in fleet as of September 2006); and an Industrial Landbank Program to assemble and clean up industrial sites for redevelopment.
- **Transit Oriented Development (TOD)** – TOD is a tool used to create high density, walkable mixed-use, mixed-income development around new rail stations and transit stops. TOD is implemented through site review and the intent is to improve quality of life through reducing household transportation expenses, reducing environmental effects and pollution from automobile exhaust in a city with very high asthma rates.
- **Pedestrian Oriented Development (POD)** – POD is also implemented through design and site review. By recommending building placement at the sidewalk and parking at the rear the City encourages pedestrian convenience.

Cleveland's model of a sustainable, transit oriented neighborhood with high density housing, transit-accessibility, in a walkable shopping and entertainment district. [Shaker Square, Buckeye-Shaker neighborhood]

- **Draft Citywide Bikeway Plan** – City Planning has developed its first draft bike plan with recommendations for the locations of bike routes, lanes and multi-purpose trails throughout Cleveland. The plan also proposes connections that will link City neighborhoods and neighboring suburbs as part of a regional bikeway network.
    - ***City Racks / City Seats Program*** – The program will install 500 bike racks around Cleveland at schools, recreation centers, neighborhood retail districts, downtown, etc. 200 benches will be installed or replaced in parks and retail districts for use by pedestrians.
- **Mayor's Bicycle and Pedestrian Advisory Committee** – The City has established an interdepartmental committee that reviews roadway/planning projects to ensure bicycling and pedestrian accommodations.
- **Mayor's Streetscape Committee** – This interdepartmental committee reviews changes to the public right-of-way that affect urban design. The intention is to decrease visual clutter and incorporate amenities like street trees, banners and bike lanes on Cleveland streets.
- **Plans Review Training** - The Cleveland Building and Housing Department is training building inspectors and plans examiners in green / high performance building review.
- **Development Incentives** - Cleveland's Economic Development Department is currently working to create development standards and incentives for green / high performance development for the Industrial Landbank Program.

- **Housing Trust Fund** – The Cleveland Community Development Department included financial incentives for green / high performance building (including an Energy Star credit and LEED silver bonus) as part of the 2006 Housing Trust Fund (HTF) application. The HTF dedicates funds annually to support affordable housing.

Many City initiatives were created without the intent of being 'sustainable,' but are sustainable in nature by combating sprawl.

- **Rehabilitation programs** that aim to preserve and bring back existing housing stock.
    - The Cleveland Landmarks Commission encourages preservation of historically and architecturally significant buildings.
    - The Cleveland Community Development Department has several residential and commercial rehabilitation and renovation programs.
- **New housing construction program** within Cleveland's Community Development Department. Because the majority of our new housing is built on vacant lots, this infill development is inherently sustainable because it uses the existing infrastructure and results in few demolitions.

Where We're Going

The City needs to be a leader in making Cleveland sustainable. If we embrace sustainability principles and acknowledge our greatest challenges, high levels of poverty and a distressed economy, we will find holistic solutions that strengthen our community in the long-run.

With Cleveland's manufacturing base and skilled labor pool, it is a natural place for industries oriented towards sustainability to develop. A sustainable Cleveland cannot be addressed passively, and will require major reassessment of the way we look at all components of our City within the greater region, an effort that needs the political will of community leaders and the public. With serious national and global issues affecting our daily lives, from dwindling oil reserves to rising costs of living, we must position ourselves so we can sustain our population when times get tough. We also must push for a political climate at the state level that is more sympathetic to urban issues.

A sustainable Cleveland is a city that conserves natural resources so that they are plentiful in the future. A sustainable Cleveland is a city that provides educational and employment opportunities to current residents in order to ensure economic prosperity for future generations. A sustainable Cleveland is a city that provides opportunities for healthy living to all citizens. A sustainable Cleveland is one that makes short-term decisions, be they cultural, economic, social or environmental, with our community's long-term health and vitality in mind. We must have the courage and determination to imagine a new Cleveland, a Cleveland for the 21st century. The time has come for all of us to stop thinking of Cleveland as a "Rust Belt" city struggling to regain its glorious but smoky past and start thinking of ourselves as the residents of a dynamic urban center in a most enviable natural setting, planning and laying the groundwork for its exciting future as the *Green City on a Blue Lake*.

TRENDS

Several trends have been identified that give a clearer picture of the challenge before us in the area of Sustainability, and may also suggest some areas of greatest vulnerability (or opportunity), where connections with appropriate community assets could be helpful.

Cleveland's Population Decline: Cleveland's population has declined dramatically from its peak of 914,000 in 1950 to 478,403 in 2000. The consequence has been a sharply reduced City tax base, resulting in concentrated poverty, blighted buildings and vacant lots peppering the previously

natural landscape. The ironic upside to this loss of population is an opportunity to redevelop land in ways that respect the natural environment and do not undermine the health of our population.

This is already being done in other downsized cities around the world. For example, in Eastern Germany mass demolition of whole blocks of underutilized, deteriorating apartment buildings has led to a massive re-vegetation effort - making urban life more pleasant (and healthful) for the remaining residents, and more attractive to prospective residents.

Environmental Degradation: The Northeast Ohio region has challenging environmental issues. While air and water quality do not meet stringent federal health standards, both have made major strides over the past 30 years with notable improvements in air quality. Expansion of urban areas (aka sprawl) has resulted in widespread environmental degradation with the reduction of riparian areas, wetlands, farmland, wildlife and plant habitat. This in turn has led to rising greenhouse and heat island effects, flooding problems, soil contamination, and poor air and water quality. Disinvestment in urban areas has led to an increase in brownfield sites and a dramatically decreased tax base which has direct negative effects on human health, quality of life, and our valuable natural resources.

Land Use Patterns: Cleveland was once known as the "Forest City." As the metropolitan area has sprawled out over time, most of the land in and near the City has been developed, changing the natural character of the community. It is estimated that Cuyahoga County is nearly 90% developed with no net increase in population over the past half century. These sprawling trends are not sustainable for our local or regional health. As Cleveland's metropolitan area continues to sprawl, our infrastructure becomes more widespread and strained, which negatively impacts our City's and region's health as the tax base declines. This has also created increased development pressure on the few remaining natural areas, necessitating a more proactive approach towards open space preservation.

In addition, Northeast Ohio has traditionally supported a diversity of agricultural enterprises, owing to the diverse micro-climates and geological influences of Lake Erie. Prime agricultural land is continuously being retired, threatening the long-term food security of the region.

Rise in Obesity & Other Lifestyle-Related Illnesses: Americans in general are getting fatter. In 2003, approximately 24% of adult Americans were obese and another 40% were overweight. These numbers have been climbing over the last 20 years. Obesity rates are approximately twice as high in low-income groups as compared to high-income groups, and obesity is a gateway to heart disease, diabetes, and a host of other diseases. Obesity is an issue for adults and now children. Not only does obesity cost the individual in terms of health and quality of life, but it costs everyone in terms of health care costs. The Trust for America's Health estimated that total state medical costs for Ohio in 2003 associated with obesity were $3.3 billion dollars. The cause of obesity can include genetic predisposition and a culture that promotes the consumption of high calorie foods.

Many lower-income communities lack access to fresh fruits, vegetables, and other foods needed for a healthy diet. The Cleveland Department of Public Health has identified several "food deserts" across metropolitan Cleveland where residents lack access to foods needed for a healthy diet. For many neighborhoods, fast food establishments and convenience stores offer the only close and reliable access to daily food. In addition, where physically active jobs were the norm in 1950, sedentary employment is now twice as common. Development patterns that necessitate an over reliance on automobile travel and discourage physical activity are also part of the problem, which includes the lack of easily accessible and attractive parks and open space.

Local Foods Purchasing: According to a 2002 study at Cleveland State University, Cuyahoga County residents and businesses collectively purchased over $3 billion in food each year. Yet, most of these food dollars left the region and even the state, following an average 1,300 mile transportation chain. There are encouraging trends toward increased demand for local food in Northeast Ohio, as evidenced by 32 farmers markets which provide outlets for smaller-scale family farmers to sell directly to the public. Numerous restaurants and grocers are placing increased emphasis on purchasing locally and Oberlin College's dining services acquire roughly 40% of their food from local sources. Initiatives such as City Fresh are targeting limited income neighborhoods with Fresh Stop markets which provide neighborhood-based local food distribution and nutrition education. Increased demand is providing new opportunities for farmers throughout the region, including urban market gardeners growing food within city limits.

Transportation: Compared to similar size cities around the nation, Cleveland has the advantage of relatively minor traffic congestion problems. Yet, as we continue to add and widen highways regionally, we increase outer-ring roadway congestion and urban sprawl. Automobiles release a chemical mixture into the air that is the leading cause of urban smog and the largest contributor to the serious environmental problems of acid rain and global warming. Cars also emit several toxic substances into the air that have been connected to severe health problems, including respiratory and cardiovascular illnesses as well as cancer.

Bumper-to-bumper traffic wastes not only peoples' time and productivity, but fuel, increasing our dependency on foreign oil. Vehicles in the United States consume roughly one-quarter of the total energy currently being produced and two-thirds of all oil. In the 1970s, according to the U.S. Energy Information Administration, the United States relied on overseas sources for over one-third of its oil; today our dependence has grown to 56%. By 2025, if nothing is done, that figure could reach 68%.

Education & the Changing Economy: Dramatic changes in the U.S. economy have had several effects on the City of Cleveland and its working-age population. One outcome is a drastic reduction in available well-paying jobs due to the loss of much heavy manufacturing and almost a dozen corporate headquarters of major companies. Cleveland now has a large pool of workers unable to use their manufacturing-based skills, a 31% poverty rate citywide, and an under-educated population unable to take advantage of the consumer- and service-based employment opportunities of today.

Vacant industrial buildings scattered throughout the city are in need of clean-up and re-use to improve neighborhood image, and environmental and public health. [Former GE Plant – Goodrich-Kirtland Park neighborhood]

One way to address the loss in manufacturing jobs is to aggressively draw renewable energy jobs to the region that utilize our manufacturing skilled work force (e.g. developing wind turbine components). Another way is to recognize the shift in recent decades to industries that make greater use of advanced technology, and aggressively grow a highly educated and technically skilled workforce.

Workforce Mobility: Cleveland's ability to remain economically competitive in the 21st century is impacted by workforce mobility. Earlier in Cleveland's history, it was the availability of jobs that attracted new residents and drove the area's economic growth. Today in Cleveland and throughout the nation, a new trend is in evidence. Jobs are being attracted to metropolitan areas by the *quality of life* available there. Advances in transportation and communication, especially computer networks and the internet, have made many workers—and entrepreneurs—more mobile than ever, making it of utmost importance that Cleveland becomes a "City of Choice". Contemporary urban research suggests that the perception of a city as a place that not only tolerates but values and supports diversity and individuality is becoming a strong factor in many people's choice of where to live. Economic development in the 21st century will (and must) be closely tied to all these things.

Waste Slows Progress: A *sustainable* economy is one that takes into consideration all the things that could eventually render it unsustainable, and makes the most efficient use of its local resources. As this generation of Americans is learning painfully, waste—whether it consists of human or material resources—has a way of piling up and eventually jamming the wheels of continued progress. Cleveland's remarkable past has given us many of the powerful assets which, imaginatively used—and in some cases, adapted to new uses—will be the building blocks on which that future rises. But the present moment is the only one in which we have the power to act, to forge new assets (such as a workforce armed with the new tools and technologies, and revitalized "neighborhoods of choice") and to chart our course. Some recent trends and developments in several areas hold considerable promise:

High Performance / Green Building: The impact of the built environment on public health and the environment has led to a new field called green building. Green / sustainable / high performance (all synonymous terms) building practices promote healthier living and working environments, and are more resource-efficient than conventional building practices.

Cleveland's first infill townhouse project built using green building principles. [Cleveland EcoVillage Townhomes, Detroit-Shoreway neighborhood]

The built environment accounts for roughly one-third of all energy, water and materials used and generates similar proportions of pollution. The U.S. Environmental Protection Agency (EPA) ranks indoor air quality as one of the top five environmental health risks today, which negatively affects health and work performance in buildings. EPA also estimates that the average family spends nearly $1,900 annually on energy bills. Benefits of green building technologies include strengthening local economies and communities, waste reduction, decreased water use, energy savings, reduced operating and maintenance costs, improved indoor air quality, and conserving natural resources and habitats. Less quantifiable benefits include improved public health, employee morale, productivity and public image. While building high-performance can increase initial costs of construction by roughly 2-7%, the cost savings are realized in a relatively short period of time.

Energy Conservation / Renewable Energy: "Fossil fuels such as coal, natural gas and oil provide most of the energy used by industry and consumers in the United States. These non-renewable sources of energy impact land, water, and air across geographical scales, and in the U.S. are directly responsible for: 98% of CO^2 (carbon dioxide), 95% of NO^X (nitrogen oxide), 93% of SO^2 (sulfur

dioxide), 54% of non-methane VOC (volatile organic compounds), and 34% of CH^4 (methane) emissions. In the long run, achieving sustainability will require that energy be produced by cleaner and more efficient technologies, be used more efficiently and with greater conservation, and be developed from renewable sources." (*from EPA's website on Sustainability, Energy & the Environment*)

Wind energy is currently the fastest-growing energy source when compared to solar and non-hydro renewable sources, but still accounts for less than 1% of the of national energy production. By 2020, the American Wind Energy Association anticipates that it will grow to 6%. A U.S. Department of Energy report showed Ohio second only to California in terms of new job potential in the wind-energy sector. The report stated that wind power could create 11,688 full-time jobs in Ohio and 8,549 in Michigan (Green Energy Ohio website). Cleveland needs to utilize its manufacturing base and infrastructure to capture wind and solar power job growth.

Recycling & Solid Waste Disposal: Landfills and incineration lead to harmful air emissions, and to pollutants that can leach into surface and groundwater over time. While recovery of methane gas (a landfill byproduct) can and should be recovered for alternative fuel use, landfills are very costly to build, manage and close. Although Ohio has plenty of landfill space in the near future, conserving landfill space now will prevent building new or expanding existing landfills.

One of the largest contributors of landfill waste is construction and demolition (C&D) debris, which in some states account for 20-30% of municipal waste. New industries are emerging to divert waste from C&D landfills, such as deconstruction, the recovery of salvageable building materials for reuse or resale which occurs during remodeling or demolition projects. These new recycling industries established to reduce both sanitary and C&D landfill waste need to be promoted and become standard practice in Cleveland. The economics also support diversion of waste: for every truckload of waste we send to a local landfill, the City of Cleveland must *pay* for the disposal; for every truckload of 'waste' diverted from the landfill and recycled, the City of Cleveland actually *makes* money. By encouraging recycling and educating our population about the benefits of recycling, we use taxpayer money more prudently and increase our wealth as a community.

ASSETS

Cleveland has a number of important assets in the area of Sustainability that can be built upon, a number of which are discussed below.

Reduced Population & Unused or Underused Land: As was mentioned in the Trends Section, Cleveland's population decline has afforded the opportunity to redevelop excess, underutilized land in ways that respect the natural environment and do not undermine the health of our population.

Sustainability Programs Manager Position: On May 26, 2005, the City of Cleveland hired its first Sustainability Programs Manager, with funds from the Cleveland and George Gund Foundations, upon the recommendation of a consortium of local sustainability organization led by the nonprofit *EcoCity Cleveland*. The strategies and objectives of this initiative are set by a steering committee composed of local nonprofit representatives, City Council, and Public Utility Department representatives. The Sustainability Manager's charge is to reduce the City's costs through the implementation of energy efficiency programs, new policies and incentives aimed at promoting green building, and other sustainability efforts. A *Sustainability Advisory Committee*, to be formed in 2006, will be made up of representatives of environmental groups, CDCs, businesses, the public health community and other appropriate bodies or sectors.

City Successes to Build Upon: The City has implemented many sustainable initiatives that can be used as models by other programs and expanded upon, which are outlined in detail in the Overview Section.

Regional Successes to Build Upon: The Great Lakes Regional Collaboration was formed to identify strategies for restoring and protecting the Great Lakes in a sustainable manner. The Collaboration completed the *Great Lakes Regional Collaboration Strategy: To Restore and Protect the Great Lakes* in December 2005 with the support of the Great Lakes mayors and other Great Lakes leadership groups. The Voices & Choices Initiative is a Northeast Ohio, community-driven effort to pool resources and identify ways to improve the regional economy and prosperity. The Northeast Ohio First Suburbs Consortium, a group of Cleveland inner ring suburban municipalities, was formed to address issues facing developed communities with limited financial resources, to encourage redevelopment and to strengthen local economies in a sustainable, cooperative manner. The Cuyahoga Valley Initiative, a Cuyahoga County Planning plan, aims to promote redeveloping the Cuyahoga River Valley in a sustainable manner through building upon existing assets in the valley, using the valley to unify the region's communities, renewing the economy, and restoring the urban ecology. The Greater Cleveland Rapid Transit Authority (GCRTA) created a Commuter Advantage Program that rewards transit users with pre-tax benefits. Another regionally focused organization is Greater Ohio, a citizen-based network promoting regional issues to grow our economy and quality of life through smart land use. The City Fresh initiative of the New Agrarian Center and Ohio State University Extension provides a regional approach to local food development by linking farmers with limited-income neighborhoods in the city. Such urban to rural linkages will be critical in fostering greater economic networking between core cities and the countryside.

The region also has a rich history with Community Development Corporations and Settlement Houses. Places like University Settlement, Merrick House, Friendly Inn, and Alta House, to name a few, developed as community-based prototypes for the sustainability movement, in that they supported the industrial economy by providing a social center for new immigrants to acclimate to Cleveland. These institutions promote community health through public health education measures and they strengthen our neighborhoods.

Local Sustainability Network and Resources: Strong networks are already in place promoting sustainability in Cleveland, such as the Entrepreneurs for Sustainability. Grassroots groups like EcoCity Cleveland, Cleveland Green Building Coalition, and Green Energy Ohio are well established, while colleges and other institutions are leading the way locally in green building construction. Funders such as the Cleveland and George Gund Foundations are supporting sustainability projects; the Enterprise Foundation is taking the lead in building energy-efficient, green homes for low income families (Green Communities Initiative); and many advocacy groups promote sustainability, from bicycle advocacy to air quality and physical health to education. All of these local efforts are developing expertise and an information base that will help build a City sustainability program.

This solar array is one element of the Cleveland Environmental Center's green building attributes. This 1918 bank building is the first commercial, historic green building retrofit project in Ohio and is a national model. [Ohio City neighborhood, photograph by David Beach]

Indeed, the Cleveland area can draw on a number of other academic resources, such as Cleveland State University, Case Western Reserve University, Baldwin Wallace, and Oberlin College, which are doing pioneering work in sustainability.

Local Models for Sustainable Neighborhood Development: Among the more impressive examples are the Cleveland EcoVillage which includes a broader EcoVillage Plan and EcoVation demonstration green homes; the Cleveland Environmental Center; and Slavic Village's Greenway Plan. Also in Cleveland's Slavic Village neighborhood, an exciting initiative know as the *Active Living by Design Community Partnership* program is demonstrating how fully developed, low-resource neighborhoods can be retrofitted and transformed into a more healthy place to live and work through a mix of physical projects, programs and policies that promote physical activity. Efforts such as these need to be commended and replicated throughout the City.

National Models: Much can be learned and borrowed from cities like Chicago, Seattle, Portland, Denver, and Santa Monica, which are leaders in the creation of sustainability initiatives.

Infrastructure and Land Use: Cleveland already has infrastructure and mixed-use land patterns in place that are sustainable. This form is even being copied by nearby suburban communities that want a mix of uses in a walkable, lively area (e.g. Crocker Park) with interesting architecture and stores coming right up to the sidewalk. From a developer's point of view, we have the "main streets" (concentrated shopping and essential services) and the urban form (mixed-use business and residential areas) that provide the basis for "walkable" communities, allowing people to live, work and play within a walkable area. We can also work to create higher concentrations of residential around transit stops to create more dense, transit oriented neighborhoods (Transit Oriented Development) (See *Car-Free In Cleveland*, an EcoCity Cleveland 2000 publication). City Council has passed a number of more flexible ordinances (see Overview Section) to allow developments with less parking and the first official form-based zoning chapter to *mandate* mixed-use development in MidTown Cleveland.

Cleveland can better utilize municipal and private utilities (water, power, storm water control, etc.) to create sustainable infrastructure and streets. Sustainable street design concepts include planting trees, creating environments that are welcoming and safe for pedestrians and bicycles, improving storm water management practices, and installing more energy efficient lighting to name a few.

Natural Features: Cleveland is fortunate to be located on one of the largest bodies of freshwater in the world, Lake Erie. The lake has been instrumental in the transportation of goods and materials that fuel the City's economy and is one of the largest sources of potable freshwater on the planet. The vastness of Lake Erie creates an environment that has a unique power of attraction and lends itself to a wide variety of water-related activities. It also provides important habitat and migration corridors for a stunning variety of birds and animals.

The Cuyahoga River and Valley are also important features that link Cleveland to many communities away from the lakeshore.

Valuing and protecting our incredible natural resources needs to be prime focus in development and redevelopment in Cleveland. [Lake Erie]

The navigation channel, the more natural sections of the river and the valley hillsides create unique places that provide the opportunity for a variety of recreational experiences; while the various tributaries that flow from higher elevations to Lake Erie and the Cuyahoga River create corridors that provide opportunities to connect city neighborhoods to the lakefront and river. The lakefront, hillsides along creek and river valleys, and the hillside of the Portage Escarpment offer excellent vistas of large parts of the city and Lake Erie. These views of expansive landscapes give residents a strong sense of connection to the larger community. As water quality has improved over the past decades, tributaries of the Cuyahoga are becoming repopulated with steelhead trout, distinguishing Cleveland as a nationally recognized fishing destination.

Cleveland benefits from the regional Metroparks system, an 'Emerald Necklace' of 16 reservations that cover 21,000 acres of land with an extensive network of nature education centers, golf courses, bicycle and walking trails, fishing, etc. Four parks sit within the City of Cleveland including the Big Creek valley, home to the Cleveland Metroparks Zoo, the Brookside Park, and portions of the Rocky River and Washington Reservations. The Washington Reservation is home to the First Tee Golf Course and a horticulture center that offers courses.

Another regional gem is the Ohio and Erie Canalway, a 110-mile heritage corridor that follows the Ohio & Erie Canal and the Cuyahoga Valley Scenic Railroad connecting Cleveland to New Philadelphia. This National Heritage Area and National Byway system promotes its diverse landscapes from natural to urban, building off of natural beauty (e.g. the Cuyahoga Valley National Park) and history.

CHALLENGES

Cleveland faces a number of challenges in its efforts to create Sustainability that must be addressed.

Personnel Inadequate to Implement a Sustainability Program: Hiring additional City employees to implement a sustainability program may seem like an expense until we analyze the cost savings in operations citywide such a program will demonstrably generate over time. The City needs to dedicate more staff to implement sustainability initiatives and to write grants for additional funding opportunities.

Financial Resources Lacking to Advance Sustainability Efforts and Create Incentives: More money is needed for advancing sustainability initiatives such as brownfields clean-up and reuse, greenway development, and cash incentives for green building projects.

Sustainability a Low Priority: Cleveland is years behind leading cities in the sustainability movement. Serious efforts focusing on sustainability to help cut costs, lure companies to the region, and improve quality of life issues are long overdue and critical to the City's and the region's future competitiveness. An educational effort directed at private and public sector decision-makers, the City's youth, and taxpayers must be planned and initiated immediately.

Social Conditions: The quality of life in Cleveland is pivotal to luring new residents and businesses to the City and retaining current residents. This means addressing the education crisis in the City's public schools, segregation (Cleveland was the third-most segregated city in the country according to an analysis of the 2000 Census Bureau Report), slow economic growth, high levels of poverty and homelessness, and a depleted tax base.

Food: Rising fuel prices, less reliable fuel supplies, and climate change will necessitate a long-term shift to localized food systems. Integrating regional food security into a long-term economic development plan will ensure that adequate land resources are devoted to sustainable food production. Using vacant lots, rooftops, and even old buildings for agricultural production (e.g. aquaculture, vermiculture, greenhouse production, beekeeping) for urban agricultural production can provide a reliable source of fresh local food that minimizes distances traveled. Utilizing local fuel sources (e.g. biodiesel from waste grease or vegetable oils) and selecting natural building techniques (e.g. strawbale construction, earth plaster) can also provide new opportunities for local farmers while securing sustainable sources of energy and building materials.

Energy-Wasteful Construction Continues: Given the high percentage of Cleveland households that qualify as low-income and the rising cost of energy (up 50% in one year, 2004-5), it is irresponsible to continue to develop housing that is not energy-efficient. Regulations must be put in place that mandate high performance / green building, especially for all new construction and rehabilitation of low-income housing.

Air Quality and Environmental Degradation: In order to become more competitive nationally, we must comply with environmental standards for air and water quality. In an age where companies are free to locate anywhere, we must improve our environment and public health in order to lure companies and families to the region. If air quality is poor, resulting in non-attainment, economic development can be hindered because some industries will not be able to operate in the area.

Transportation: As fuel prices continue to increase, we must provide alternative, affordable options for our residents. Creating more compact, sustainable communities with a variety of transportation modes is a way to plan our communities around people rather than for our cars. We must provide transportation choices for our community that are bike and pedestrian friendly, that encourage mass transit and vehicle car pooling. We must begin to make choices favoring alternative technologies such as cleaner fuels and cleaner modes of transportation (like our existing shipping industry). And we must use our purchasing power to favor hybrid energy-efficient vehicles.

Although public transit is very costly and hard to 'justify' for a city of our size, poverty data must be taken into consideration, as low-income residents need an extensive public transportation system in order to have access to opportunities. More east-west connections and connections to the southeast of the City are needed to serve a greater portion of people in Cleveland.

State and Federal Policies: Many policies at the state and federal level do not favor older urban areas, instead promoting urban sprawl and transportation policies that encroach into diminishing open space and farmlands. This development pattern leads to urban disinvestment, costly maintenance of expansive infrastructure, and natural resource depletion. Ohio needs to follow the example of more progressive states like Maryland and Minnesota and adopt 'smart growth' initiatives that seek to re-invest in urban areas. And the federal government needs to lead the way by establishing controls on sprawl to help strengthen the sustainability of our country as a whole.

POLICIES & STRATEGIES

The larger goal of all activity in the area of Sustainability is to ***ensure the long-term environmental, economic and social viability of Cleveland and its region.*** *The* Connecting Cleveland 2020 Citywide Plan *proposes the following set of policies, each addressing a key issue, and strategies for implementation.*

1) **Sustainable Development Patterns.** Create high-density, mixed-use districts that promote travel by transit, walking, and bicycling.

   a. Support regional efforts to reduce suburban sprawl in order to strengthen and reinvest in the City of Cleveland and our urban core, while supporting farmland preservation and expansion efforts (e.g. the Cuyahoga Valley Countryside Conservancy) and other land protection efforts (e.g. the Western Reserve Land Conservancy).

   b. Engage in a sustainable development planning process to develop clear, useful guidelines, and provide technical assistance to Community Development Corporations (CDCs) and private developers involved in neighborhood development projects.

   c. Integrate sustainable design and construction practices and the use of eco-friendly materials into major infrastructure and neighborhood-scale redevelopment projects.

   d. Support Transit-Oriented Development (TOD) initiatives that increase the density of housing along bus lines and near transit stops.

   e. Improve public transit to provide a clean, convenient, and efficient alternative to automobile use.

   f. Change traffic codes to be more pedestrian- and bike-friendly and create safe bike routes connecting residents to amenities and other key destinations.

   g. Partner with other public and private entities to develop a sustainable design resource center.

2) **Sustainable Neighborhoods.** Develop "full life-cycle neighborhoods" that provide housing and services for residents of all ages and incomes, with a healthy living environment and convenient access to jobs, shopping and recreation.

   a. Ensure that residents can meet their basic needs by providing: affordable housing to meet the needs of all ages, incomes, and special needs; access to affordable health care; employment and income to support individuals and families; safe communities and work places; and access to locally produced, affordable food.
      - Provide basic needs services within walking or cycling distance of residents (e.g. grocery stores and community gardens).

   b. Ensure that residents can advance themselves through: access to a variety of local and/or regional jobs; through advanced education opportunities; through affordable recreation, leisure or cultural facilities and programs; through opportunities for cultural and artistic expression; and through opportunities to promote health and well-being.
      - Retrofit and transform built-out, low-resource neighborhoods through physical projects, programs and policies that promote physical activity and access to nutritious food, by following the example of the Slavic Village neighborhoods' *Active Living by Design Community Partnership* program.
      - Encourage residents to lead healthier lifestyles through exercise, community involvement, and by taking advantage of educational opportunities in the community

to learn about obesity and other health risks.
- Develop increased access to electronic communications to address the digital divide.

c. Ensure that residents have opportunities to participate in social or community activities to improve quality of life by encouraging: community economic development; embracing diverse communities; involvement in public processes; by providing opportunities for social community interaction and access to arts, cultural and community activities; and support of local community organizations and networks.
   - Incorporate environmental and sustainability interests into community organizing and neighborhood planning efforts.
   - Encourage participation in block clubs and neighborhood watch programs to increase public safety and to assist community members in taking ownership of their neighborhood.
   - Promoting community gardens, youth gardens, and urban market gardens in neighborhoods to provide a source of supplemental income, greenspace, more accessible fresh affordable foods, and to enhance social networks and community.
   - Encourage transit use to improve quality of life by cutting household transportation expenses while reducing the impacts of pollution on public health and the environment.
   - Examine existing City programs to determine whether they support, or work against, the goal of creating full life-cycle neighborhoods, and make any necessary modifications.

d. Ensure that minority and low-income populations are not disproportionately affected by adverse human health or environmental conditions.
   - Use information related to environmental and human health risks and ensure that local programs, policies or activities have not unfairly affected minority or low-income populations.
   - Ensure that communities and neighborhoods have a strong voice in environmental decision-making and problem solving and build capacity for constructive engagement and problem-solving.
   - Receive full protection from existing environmental rules and regulations by ensuring that all permitted facilities in a neighborhood are in compliance with their environmental permits.
   - Conduct enhanced review of any new or expanding air or water emissions, or solid or hazardous waste facilities.

3) **Sustainable Economy.** Ensure that economic development and job training in the Cleveland region keep pace with national trends and emerging opportunities in order to provide jobs for current and future residents.

a. Foster relationships between industry and environmental interests to maintain Cleveland's industrial health while incorporating sustainable business practices.

b. Create environmentally sustainable developments, such as eco-industrial parks or zero waste businesses, where networks of firms exchange products and by-products to optimize economic, employment and environmental objectives. What is waste for one company may be a raw material and revenue for another.

c. Foster the growth of businesses and industries that are developing or manufacturing technology, products or materials for high performance / green building, ecologically responsible waste disposal or recycling, local food, and clean energy production.
   - Provide incentives to encourage sustainably-minded businesses to locate in Cleveland, and commend existing companies that follow pollution prevention and product stewardship practices.
   - Improve the capacity to store and process locally grown foods to encourage the development of food-related businesses, which provides basic entrepreneurial training, creates new markets for local farmers, and captures more value from food than is currently purchased from outside of the region.
   - Foster growth of the deconstruction industry in Cleveland, the recovery of salvageable building materials for reuse or resale to the green/sustainable construction marketplace.

d. Ensure that the Cleveland public schools are providing children with the skills and resources that will enable them to pursue advanced education or become gainfully employed in today's marketplace.

e. Encourage the efficient use of resources by adopting sustainable business practices for businesses, organizations and local governmental agencies in Cleveland.
   - Reduce consumption of resources by City agencies in order to save money and reduce disposal costs.
   - Utilize local food production as an opportunity to teach basic entrepreneurial skills and sustainable business practices to urban residents.
   - Develop a plan to increase adoption of sustainable practices by Cleveland businesses including the production of a resource guide.

f. Use the City's purchasing power to support the local economy, the public health and the environment, and encourage other entities to the do the same.
   - Reduce City purchasing of products that may be harmful to public health or the environment and, where possible, seek less harmful substitutes (e.g. purchase wood products from sustainably managed forests and recycled-content paper).
   - Purchase more products and food from local and regional companies.
   - Work with local economic development groups to map the locations of local suppliers and distribute that information to encourage the purchase of local materials.
   - Encourage local businesses such as restaurants, schools, groceries, farmers markets, and convenience stores to purchase fresh, locally-produced, organic produce.
   - Consider human health and environmental impacts when the City makes planning, contracting, purchasing, or operating decisions.

See the Economic Development chapter for more policies and strategies.

4) **Sustainable Development Practices.** Ensure that land is used in a manner that preserves and expands valuable open space, protects natural habitats, retains and replaces trees, prevents environmental contamination, and protects sensitive lands.

a. Develop and maintain a comprehensive open space system that protects the natural environment while providing passive and active recreation opportunities, which is equitably distributed throughout the community.

- Create a long-range open space plan for open space and habitat preservation and restoration that identifies opportunities, sets priorities and details acquisition and management strategies.
- Create a new land conservancy or land trust, or expand an existing group to hold property for open space projects.
- Actively solicit donations of property or easements to protect and enhance identified resources.

b. Develop neighborhood level plans centered on restoring the function and aesthetics of natural features and highlight them as amenities for neighborhood preservation and restoration.
   - Ensure that neighborhood master plans and other planning efforts include preservation and enhancement of significant natural and scenic resources.
   - Incorporate new fish and wildlife habitat elements into park plans and landscaping.
   - Include noise reduction as a major goal in neighborhood planning efforts.
   - Encourage the incorporation of low impact development features into new development proposals.
   - Include water and habitat quality improvements as part of any water related (rivers, lakes, streams) recommendations.
   - Promote existing neighborhood greening efforts like the Broadway Greenway Plan, which advocates the creation of multi-modal routes linking neighborhood parks to public open space, neighborhood assets, and the regional Towpath hiking trail system.

c. Protect natural areas characterized by stream valleys, stream valleys / riparian areas, wetlands, hillsides, forests and other environmentally sensitive and valuable features.
   - Support preservation of regional habitat and biodiversity by promoting land use patterns that encourage growth within the City rather than in undeveloped areas.
   - Encourage preservation and maintenance of existing natural habitat in new development or redevelopment projects and require mitigation if damage is unavoidable.
   - Encourage the use of greenspace protection tools, such as conservation easements, and adopt ordinances that will assist in achieving preservation goals.
   - Protect natural resources from sediment and other forms of pollution through use of vegetation, erosion control measures during construction, settling ponds and other structural and non-structural means.
   - Correct lakefront and riverfront erosion conditions where it is in the public interest to do so.
   - Protect land from changes that would make it unsafe or unsightly (e.g. excavation, quarrying).
   - Establish policies regarding the appropriateness of "fill" (using earth to build up the level of low-lying land).
     - When and if filling is approved, require the highest engineering standards to ensure safety and consistency with the future use of that property.
   - Protect existing recreation and open spaces by making them permanent.
     - Analyze existing recreation and open space for use and access by residents and appropriateness for rezoning as an Open Space & Recreation (OSR) Zoning District (Chapter 342 of zoning code).
     - Reserve land for either temporary and permanent community gardens or urban market gardens in every neighborhood throughout the City.

    - Protect and retain trees of significant historical, cultural, horticultural, environmental, and aesthetic value.
- Add City staff to handle review of areas deemed critically sensitive.

d. Improve the quality of existing open space and natural features including restoring their natural functions to lessen the negative impact of human development on the local ecosystem.
   - Protect and improve the quality of street trees, landscaped areas, urban forests and wildlife habitats within Cleveland, in order to maximize their environmental and aesthetic benefits.
     - Consider the value of the functions trees provide (wildlife habitat, property value enhancement, open space enjoyment, soil stabilization and greenhouse effect mitigation) in decisions related to infrastructure and development / redevelopment projects.
     - Restore natural function to the Lake Erie shoreline.
     - Improve and make urban cemeteries more usable and active.
   - Maximize public access to the lakefront, riverfront and stream valleys, including safe and convenient access from nearby neighborhoods for pedestrians and bicyclists.
   - Raise the importance of local restoration projects such as those for Doan Brook, Big Creek, Mill Creek, and Euclid Creek.

e. Acquire additional open space in underserved areas and increase vegetative cover in the City to help decrease the urban heat island effect caused by impermeable surfaces.
   - Support the acquisition of, and assist in the assembly of, land that will expand greenspace opportunities in the City.
     - Aggregate underutilized and/or vacant land for neighborhood green spaces (e.g. new parks, community gardens, desalinization gardens, and wetlands).
     - Improve and expand publicly accessible recreation sites and greenways along the lakefront and other waterways such as Doan Brook, Treadway Creek, Big Creek, Mill Creek and Euclid Creek.
     - Increase staff and funding allocated for greenway restoration projects.
   - Consider development of an urban forest management plan that establishes goals for tree planting, maintenance and greenbelt restoration and identifies priority actions to improve the number of healthy trees.
   - Expand land dedicated to urban agriculture (e.g. community gardens) to increase local food production and to support community building and nutrition education.
     - Encourage the utilization of vacant land and rooftops within the city for market garden or agricultural production.
     - Partner with local organizations groups like City Fresh part of the New Agrarian Center to promote access to local food systems.
     - Purchase local produce for the Cleveland City Hall cafeteria and encourage other institutions to do the same (e.g. medical and research facilities, schools, and colleges).
   - Utilize green technology (e.g. green roofs, permeable pavement, bioretention cells, and pocket wetlands) to help decrease urban heat island effect, to lower energy costs, and to incorporate water quality features.
     - Promote existing green roof projects (e.g. the Cleveland Environmental Center, several Cleveland Division of Water facilities like the Baldwin covered reservoir, and the Convention Center green roof) and local green roof installation companies (e.g. The Garland Company).

    - Encourage the City of Cleveland to promote green roof technology by installing them on City buildings where appropriate.

f. Manage City operations in ways that work with natural systems to minimize negative impacts to the environment and reduce costs to the City.
    - Design, construct and operate all City facilities to limit environmental impacts through energy efficiency, water conservation, waste minimization, pollution prevention and/or resource efficient materials.
        - Planning, contracting, purchasing, and operating decisions should consider the environmental and economic costs and should include the suppliers' commitment to protecting the environment.
    - On City property, cultivate ecosystems that encourage native wildlife.
    - Use regionally appropriate plants (native species) on all City property to reduce maintenance costs and to create native habitats supportive to local wildlife and resistant to local insects, diseases and climate conditions.
        - Monitor the use of native and non-native plants on new or replaced public landscaped areas and non-recreational turf areas.
        - Utilize local resources to gather and distribute information about native plant species (e.g. Cleveland Natural History Museum, Holden Arboretum, Big Creek initiative website).
        - Encourage the development of small-scale horticultural enterprises to propagate native plants that can be utilized for native vegetation and habitat restoration initiatives.

g. Expand public/private partnerships to more effectively involve citizens and non-governmental organizations in the care and enhancement of habitat for native plants and wildlife.
    - Engage organizations like the Wildlife Habitat Council (works with private businesses to protect, restore and manage natural areas on private property) to expand their presence in Cleveland.
    - Coordinate with local, state and federal regulatory agencies to address proposed developments within natural resource areas.
    - Continue and expand cooperative relationships with regulatory and local non-profit agencies to promote environmental stewardship.
    - Involve citizens, community groups and non-profit organizations in the care and enhancement of urban forests and wildlife habitat.
        - Allow for Adopt-A-groups, other community groups and volunteers to clean up and maintain streets, parks, streams, etc.

h. Educate property owners, residents and City personnel on water quality best management practices (BMPs) that reduce negative environmental impacts.
    - Map all parks, "green" projects, outdoor recreation opportunities and natural assets and distribute widely as a regional branding/marketing tool.
    - Improve City's role in public environmental education and provide opportunities for public involvement in recreation management and maintenance.
        - Educate employees about environmental impacts through training in environmental stewardship programs at community and recreation centers.

See the Recreation & Open Space chapter for more policies and strategies specific to recreation and the waterfront.

5) **High Performance / Green Building.** Amend building and zoning codes and add financial incentives to encourage high performance "green building" that conserves resources and creates more healthful living and working environments.

a. Ensure that City policies and codes allow high performance building to proceed with same ease as other new construction and rehabilitation projects. (Seattle's Sustainable Building Policy is a good model.)
   - Create high performance building design and construction guidelines for the City of Cleveland.
   - Train City staff to provide high performance building technical assistance to developers and the public.

b. Develop a high performance building rating system in Cleveland for a variety of building types, including commercial, residential, and affordable housing.
   - Develop a high performance building policy and requirements for all City-owned and funded construction projects; set goals and timelines for what percentage of new construction must be green.
   - Develop a high performance rating system, administrative rules, project tracking, criteria, outreach and marketing.
   - Conduct research on barriers to high performance building in Cleveland and develop tools to remove impediments.

c. Create incentives and subsidies to encourage developers to build high performance.
   - Provide residential and commercial incentives by creating City programs that provide homeowners and developers with grants or rebates for new construction and major remodeling projects that meet high performance guidelines as defined by the City.
   - Offer a combination of technical assistance, grants, low-interest loans, and discounted energy audits.
   - Follow the example set by the cities of Shaker Heights and Lakewood.

d. Educate officials, City staff, developers, private and public sector decision makers, and the general public about the reasons for, and benefits of, high performance building.
   - Develop materials (e.g. brochures, fact sheets, newsletters, event displays) and a marketing campaign to promote high performance building principles and technology in Cleveland.
     - Develop a web site that contains information on City programs, guidelines, incentives, case studies, emerging technologies, and links related to high performance building.
     - Develop and deliver high performance building-related training and workshop curriculum.
     - Encourage local purchase of all materials (within 500 miles of the City).
     - Arrange for local high performance buildings to be featured in case studies, home tours and other education and outreach initiatives.
     - Evaluate current projects to see how well they meet high performance building goals in the City.

6) **Nonmotorized Travel.** Design and develop safe routes for walking and bicycling, accessible to all residents, in order to reduce automobile dependency, improve health, and reduce the cost of travel.

a. Modify traffic codes and adopt street design standards that are bike- and pedestrian-friendly, and adopt standards and requirements for the design of trails and bike improvements for roadways in keeping with the American Association of State and Highway and Transportation Officials (AASHTO) standards.

b. Require that pedestrians and bicyclists are accommodated in all roadway and capital improvement projects; allocate a portion of City roadway improvement money for bike and pedestrian enhancements.

c. Create a comprehensive network of bicycle routes, bicycle lanes and multi-purpose trails that safely link neighborhoods to recreation sites, schools, shopping areas, places of employment and other destinations throughout the City and region.
   - Evaluate Ohio Department of Transportation (ODOT) property, railroad property and underutilized rights-of-way for use as potential trail routes.
   - Develop and expand continuous trails along waterways as part of broader greenway corridors.
   - Coordinate bikeway planning with adjacent communities and the Cleveland Metroparks.
   - Improve coordination of mass transit facilities, routes and bicycle amenities throughout the City.

d. Develop incentives and accommodations to encourage employees of the City, other public agencies and private industry to commute to work on foot or by bicycle.
   - Create car-free districts and pedestrian-friendly streets, and designate special areas and times for minimal automobile use.
   - Provide bicycle racks, benches, water fountains and other amenities to encourage bicycling and pedestrian travel throughout the City.
   - Establish secure bicycle parking throughout the City and support the City Racks / City Seats program to install ~500 bike racks and ~200 benches in Cleveland.
   - Create a centralized downtown bike station providing services for bicycle commuters, such as secure bicycle parking and showers (e.g. Chicago's Millennium Park Bike Station).
   - Reduce City employee work trips by encouraging walking and biking to meetings instead of driving fleet cars.
   - Consider implementing bike parking requirements in Cleveland's zoning code for new buildings and developments.
   - Design bicycle and pedestrian amenities as public art.

e. Improve pedestrian and bicycle safety and access throughout the City.
   - Improve crosswalk safety by consolidating crosswalks, signal, and transit stop locations for safety and convenience.
   - Improve the aesthetic experience for pedestrians by designing wider sidewalks where appropriate, and using materials and treatments that invite pedestrian activity.
   - Develop 'Safe Routes to Schools' programs in all neighborhoods to improve safety conditions for children walking and biking to school.
   - Identify and reduce road hazards and barriers to bicyclists (e.g. potholes, glass, and sewer grates).
   - Increase driver awareness of bicyclists and pedestrians through education and marketing, and promote local and national programs.

- Use educational programs within the police department, schools and other agencies to teach children and adults, cyclists and motorists to safely share the roads and trails.

f. Increase community interaction through 'street reclaiming' to increasing social, cultural, recreational and economic activity in neighborhood streets.
   - Promote block club activity and neighborhood parties and festivals.
   - Incorporate benches, art displays and other design features to encourage community interaction on sidewalks and front lawns.

g. Market walking and bicycling as a way to reduce household costs and to improve health and the environment for Clevelanders.
   - Develop a City Bikeway Map, safety brochure and other bicycle publications that are regularly updated.
   - Promote bike-to-work programs and bike advocacy groups such as Ohio City Bike Co-op and ClevelandBikes!.

See the Recreation & Open Space chapter and the Bikeway Master Plan for more policies and strategies.

7) **Motorized Travel.** Continue to upgrade current bus fleets with cleaner-burning vehicles, and accelerate the replacement of vehicles in government and corporate fleets with more fuel-efficient and cleaner-burning vehicles.

a. Increase investment in and support clean fleet programs, including clean buses to improve air quality, public health, and ridership.
   - Support City efforts to purchase energy efficient, hybrid vehicles.
   - Support City's 2006 Anti-Idling Policy, to eliminate unnecessary idling of city vehicles as a way to reduce fuel consumption and harmful carbon emissions.
   - Support the Greater Cleveland Regional Transit Authority's (GCRTA) clean bus fleet initiative and encourage more bus and transit improvements.
   - Expand the use of biofuels (e.g. ethanol, biodiesel) in City vehicles.
   - Increase the use of fuel-efficient and alternative fuel engines like mopeds, motor scooters and motorcycles, and provide adequate facilities (e.g. parking spaces).

b. Decrease automobile use in the City.
   - Support car-sharing programs and reduce the percentage of City employees driving to work alone.
   - Reduce the amount of fuel used by City employees for work trips by reimbursing them for using transit instead of City fleet cars.
   - Create and publicize park-and-ride lots near transit stations.
   - Implement a citywide transportation plan and make recommendations for new bus routes or facilities and priorities for investment (Transportation Development Opportunities).

c. Manage traffic and design transportation facilities in such a way as to enhance neighborhood aesthetics and quality of life.
   - Develop roads that provide direct truck access between freeways and industrial areas and, whenever possible, divert cars and trucks from residential neighborhoods onto major streets and nonresidential streets.
   - Use traffic-calming and other design features to enhance neighborhood livability.

- Preserve natural geography and protect views, historical sites and archaeological resources when designing transportation facilities.
- Encourage the use of sustainable design and construction practices in major local and regional transportation infrastructure improvements.

8) Mass Transit. Increase use of mass transit through such initiatives as employer incentives, park-and-ride lots, and transit-oriented development projects.

a. Increase investments in and support clean public transportation, including modern commuter trains to improve air quality, public health, and ridership.
   - Continue to develop relationships between the City of Cleveland and local and regional transportation agencies to increase public transit opportunities and awareness; and work with other agencies to create multi-modal hubs.
   - Implement a citywide transit plan and make recommendations for new transit routes or facilities and priorities for investment (Transit Development Opportunities).

b. Create incentives to encourage transit use and reduce driving.
   - Promote GCRTA's Commuter Advantage Program offering discounts on public transportation fares.
   - Educate the public about the benefits of mass transit versus the automobile.
   - Create faster and more comfortable transit service, and improve rider information and marketing plans.

c. Utilize transit stations as catalysts for creating dense, attractive, compact, livable and walkable neighborhoods (Transit-Oriented Development).
   - Increase the density of housing near transit facilities, along bus lines and within mixed-use retail corridors.
   - Encourage a mix of compatible land uses at transit stations designated on the Transit Opportunities list.

9) Energy Conservation. Reduce use of energy and water in City-owned facilities and vehicles and encourage similar practices by residents, businesses and other organizations.

a. Establish Cleveland as a national model for energy management and efficiency in all City facilities and operations, and encourage similar practices by residents, businesses, and other organizations.
   - Conduct an energy audit of all City-owned facilities to gather information about their use of, and expenditures on, electricity, natural gas, fuel oil and gasoline.
   - Establish efficiency standards and an energy reduction challenge for all City departments, and provide the tools and information needed to identify opportunities to reduce City greenhouse gas emissions in decisions on purchasing, operations and construction.
     - Purchase only the most energy-efficient appliances (e.g. air conditioners, refrigerators, copy machines, computers, and automobiles) that use cleaner fuels (e.g. biodiesel).
     - Convert all traffic lights to light-emitting diodes (LED), which are less expensive to use and last 10 times longer than conventional fixtures.
     - Encourage the use of non-automotive transportation by City employees and the public.
     - Encourage land use patterns and methods of transportation that use less energy.

    - Install green roof technology on City Hall and other City buildings to increase energy efficiency and reduce replacement costs, as green roofs can last twice as long as conventional roofs.
    - Plant trees as a way to reduce heating and cooling costs (e.g. strategically plant deciduous trees to block summer heat, and when leaves drop sunlight warms buildings in winter months; or plant evergreen trees to block cold winter winds).
  - Develop and promulgate a local action plan for reducing Cleveland's contribution to global warming, and disseminate information (through public meetings, printed materials, the City's web site and the media).
    - Show local residents and businesses how to estimate their greenhouse gas emissions and how to identify potential reduction opportunities.

b. Promote energy conservation through City programs and projects for residential, commercial and wholesale City customers.
  - Require landlords and homeowners receiving City tax abatement to purchase only appliances meeting Energy Star efficiency standards.
  - Make housing rehabilitation the official City preference, whenever possible, over demolition and new construction, as utilizing existing housing uses less energy and resources and recognizes the superior construction methods/materials of older housing stock.
  - Create or expand programs, such as the City's low-income and multi-family housing weatherization program, to help lower energy bills for low-income residents through improved energy efficiency in homes.
    - Partner with local utilities and the State to assist multi-family property owners in getting energy audits; create a marketing campaign (direct mailings, advertisements in multi-family housing publications and tradeshows) to get homes insulated and weatherized through these partnerships.
    - Provide residential customers of CPP/FirstEnergy with technical assistance and incentives for energy efficiency improvements.
    - Utilize local/national foundations to help provide funding for energy-efficient apartment projects.

c. Improve the economic vitality of commerce and industry in Cleveland by promoting effective energy management practices.
  - Provide local businesses with the tools to estimate their greenhouse gas emissions and potential reduction opportunities.
  - Provide technical assistance/utility coordination and incentives to small commercial and larger commercial/industrial customers (through CPP/FirstEnergy) for energy efficiency improvements.
  - Encourage the purchase of energy-efficient appliances and cars.

d. Restructure Cleveland Public Power to be a provider of energy services rather than a delivery company for kilowatt-hours of electricity.

10) **Renewable Energy.** Promote use of solar, wind, geothermal and other renewable energy resources.

a. The City should take a leadership role in encouraging local electricity suppliers and the general public to use local, non-polluting, renewable energy and to recycle energy and fuels through education and outreach.

b. Work to eliminate the use of fossil fuel-burning sources of electric power for City operations by purchasing alternative energy sources.

c. Set goals for decreasing the use of fossil fuels, and promote use of alternative fuels, in vehicles and equipment owned by the City, transit or fleet operators, and the public.

d. Ensure that businesses have the ability to purchase at least part of their electricity from renewable sources.

e. Provide incentives to encourage local residential, commercial and industrial consumers to manufacture, purchase, and install renewable energy systems.

11) **Brownfield Remediation.** Clean contaminated "brownfield" sites and promote beneficial re-use through regulatory action and increased funding to improve Cleveland's environmental and economic health.

a. Increase support and funding for the City's Industrial Landbank Program which is intended to return brownfields to productive use by prioritizing, assembling and rehabilitating the properties.

b. Promote the participation of non-profit community development organizations in the development of brownfields to encourage development that meets community needs.

c. Promote community involvement in the planning and implementation of redeveloping brownfields.

d. Promote the protection of public health and the environment in developing brownfields.
   - Promote cleaner re-use of cleaned land by requiring new buildings to meet and exceedgreen / high performance building standards aimed at restoring environmental conditions and encourage healthy living and working environments.

12) **Recycling and Waste Management.** Reduce waste disposal through municipal curbside recycling and programs for recycling tires, motor oil, yard waste, electronic equipment, demolition debris, and roadway materials, as well as by encouraging consumers to make choices that are less wasteful of resources.

a. Decrease overall community consumption by purchasing materials in bulk whenever possible to avoid wasteful individually-packaged products.

b. Minimize the quantity and toxicity of solid waste generated from City facilities and operations through waste reduction, reuse and recycling.
   - Work with all City departments and their contractors to improve and expand recycling and waste reduction efforts (e.g. direct all City departments and their contractors to set an example by purchasing only sustainable materials like recycled paper).
   - Measure the volume and toxicity of hazardous material purchased by the City and take steps to reduce the use of such materials.

- Include language in construction request for bids and proposals requiring recycling and waste reduction, and during construction projects through reuse and grinding of materials onsite.

c. Control illegal disposal and eliminate land disposal of untreated waste.
   - Reduce illegal dumping and nuisance problems by coordinating collection of large items with haulers and scrap metal recyclers in targeted neighborhoods.
   - Consider increasing dumping and landfill fees regionally to make recycling of materials a more economically viable alternative.
   - Consider charging a franchise or tonnage fee for all land disposal that would be used to help fund residential solid-waste, recycling and green / high performance building programs.
   - Ensure the City's capability to respond quickly to reported violations.

d. Improve and expand residential and commercial waste reduction, reuse and recycling.
   - Make recycling as easy as possible for residents and businesses.
     - Improve the design of recycling receptacles for ease of use, and as funds become available reinstitute the curbside recycling program.
   - Expand the recycling program to include yard debris service and leaf pick-up citywide with opportunities to compost food waste.
   - Aggressively promote residential and commercial recycling through education and outreach programs (e.g. at schools, recreation centers, public events, etc.).
     - Expand consumer education programs designed to increase awareness and teach residents the basics of composting and other practices that help reduce solid waste disposal.
     - Promote the City's newest Commercial Recycling Program by getting large commercial operators and multifamily buildings to use the free recycling containers provided by the City.
   - Provide recycling assistance to multi-family housing complexes and consider installing recycling receptacles that are easily accessible and user-friendly.
   - Encourage the establishment of new businesses promoting alternative means of waste reduction (e.g. composting, vermiculture).
     - Create a commercial food-waste collection and processing business to divert that type of waste from landfills.
   - Explore and evaluate new recycling markets for additional types of materials (e.g. plastics, computers and other electronic equipment).

e. City departments and contractors shall divert as much construction and demolition (C&D) debris from landfills as possible through waste reduction, reuse and recycling.
   - Require City departments to follow the lead of the Division of Waters' Construction and Demolition Waste reduction ordinance, requiring that 50% of C&D waste be recycled or reused (Ordinance C-57, Construction and Demolition Waste).
   - Consider creating financial incentives to encourage waste haulers to increase their diversion of C&D material from landfills.

f. Support deconstruction (the recovery of salvageable building materials for reuse or resale) during remodeling and demolition projects conducted by the City, unless the building must be demolished or repaired quickly for health or safety reasons.
   - Create an ordinance mandating deconstruction, whenever possible, over demolition.

- Promote deconstruction as a viable means of generating economic development by creating jobs in low-income neighborhoods, reducing waste disposal costs and offering new business opportunities such as a materials resale warehouse (e.g. Habitat for Humanity's ReStore).
- Provide informational brochures about deconstruction and salvage options to all citizens applying for building demolition or remodeling permits.
- Foster partnerships between the local demolition and deconstruction industries so that recovery and reuse of building materials can be maximized in a manner that is profitable for both.
- Work with local builders to develop guidelines and procedures designed to increase C&D recycling and expand the deconstruction market in Cleveland. (See Cuyahoga County Solid Waste Districts' Construction Debris resources.)

13) **Water Quality.** Improve regional water quality by better managing storm water runoff, strictly enforcing emission controls, reducing use of harmful lawn-care chemicals, and restoring urban streams and rivers.

a. Support regional sprawl management initiatives aimed at reducing automobile use and other factors contributing to water pollution.

b. Support Northeast Ohio Regional Storm Water task force recommendations for consistent and prescriptive storm water ordinances in the region.

c. Support the Northeast Ohio Regional Sewer District (NEORSD) plan addressing Combined Sewer Overflow (CSO) events so as to reduce the amount of untreated wastewater being released into water resources.

d. Coordinate major development projects with County and suburban governments to reduce sewer overload impacts.

e. Work regionally to improve programs and management strategies designed to prevent and reduce contamination of street runoff and storm water from all sources and encourage appropriate post construction best management practices (BMPs) based on site and soil conditions to improve water quality.
   - Study the feasibility of establishing a regional Storm Water Authority to solely address storm water issues related to impervious surfaces (e.g. surface parking lots).
   - Identify and disseminate BMPs and establish policies that facilitate effective management of both the quantity and quality of storm water runoff caused by land development.
     - Encourage organic gardening techniques in park/cemetery/vacant land maintenance, and plant low maintenance native plant species to decrease water use and pesticide runoff.
     - Implement innovative storm water quality and quantity management techniques like bioretention cells, pocket wetlands, enhanced water quality swales, water quality filter strips, tree box filters and storm water ponds to filter and reduce storm water quantity.
   - Limit nonpoint source pollution that comes from diffuse land use sources (e.g. salts, sediments and chemicals) carried to lakes and streams by surface runoff.
     - Investigate banning the use of pesticides on all public property (following the example Cleveland Heights set in 1995).

    - Educate landowners about alternatives to pesticides and herbicides (e.g. natural / organic lawn care techniques) and create incentives to encourage use of alternatives.
  - Work with businesses and the community to provide education about the importance of, and methods for, controlling the release of all contaminants into storm drains.

e. Control storage, manufacture, transportation, use and disposal of hazardous substances, especially in areas with sensitive aquatic ecosystems, such as the Cuyahoga River Valley and Lake Erie watersheds.

f. Cooperate and coordinate efforts with state and federal agencies to minimize illegal discharges into water from both permitted and non-permitted sources.

g. Promote non-polluting recreational uses of Lake Erie and other fresh water resources in the area.

h. Promote water efficiency through programs and projects designed for water customers.
  - Set goals for reducing water use by all regional consumers.
  - Set up a "rain barrel" program to inform the public about the cost savings and other benefits of collecting rainwater from rooftop runoff (e.g. for garden irrigation).

i. Implement exemplary water efficiency measures in all City facilities and operations and urge the Greater Cleveland community to use similar practices.
  - Install more efficient technologies, such as low-flow water fixtures, in City buildings.
  - Install computerized irrigation systems in City parks.
  - Decrease the overall community consumption of non-local, non-recyclable, non-recycled water.

j. Conserve significant wetlands, riparian areas and bodies of water for the purpose of containing and regulating storm water runoff, to prevent flooding, to provide sediment and erosion control to improve overall water quality.
  - Create a comprehensive drainage plan to identify priority actions to improve water quality, drainage and aquatic habitat.
  - Regulate development within identified drainageways, water bodies, riparian areas and wetlands by passing riparian and wetland setback ordinances.
  - Restore natural drainage systems and urban streams in neighborhoods.
  - Create manuals for landowners and developers on installing natural drainage systems.

14) **Air Quality.** Improve regional air quality by strictly enforcing emission controls, increasing alternative energy production, and promoting the use of mass transit, nonmotorized travel, and cleaner-powered vehicles.

a. Work to calculate and reduce Cleveland's carbon footprint to fulfill goals of the Mayor's Climate Protection Agreement signed on July 3, 2006, which follows the example set by over 200 U.S. cities that support the Kyoto Protocol (a United Nations pact to reduce emissions of carbon dioxide and five other greenhouse gases in order to improve air quality and address climate change concerns) and develop financial incentives for City staff and citizens to achieve reductions in the City's carbon emissions.

b. Ensure that air quality in Cleveland meets state and federal air quality standards.

- Implement a climate protection plan with goals and strategies for reducing greenhouse gas emissions citywide.

c. Promote the development of non-polluting industries and work with existing industries to help them comply with established industrial emission control regulations.

d. Encourage greater use of transit and transit oriented design.
   - Support the Greater Cleveland Regional Transit Authority's (GCRTA) clean bus fleet initiative.

e. Reduce the use of fossil fuels in automobiles and trucks.
   - Promote the use of clean-burning, alternative-fueled vehicles by large fleet operators, transit operators and the public as a way to reduce impacts on air quality.
   - Encourage the location of a biodiesel production facility here.
   - Promote the use of alternative modes of transportation such as carpooling, bicycling, walking and transit as a means to improve air quality.
   - Actively discourage the wasteful practice of vehicle idling; support the City's 2006 Anti-Idling Policy, which eliminates unnecessary idling of City vehicles as a way to reduce fuel consumption and harmful carbon emissions.

f. Reduce and eventually eliminate the use of fossil fuel-burning sources of electric power.
   - Purchase energy generated from alternative sources such as wind or geothermal power.
   - Implement energy conservation strategies in all City-owned facilities and operations.

g. Improve indoor air quality in all renovation and new construction projects by utilizing high performance / green building techniques in City-owned facilities and in private construction.

h. Protect existing greenspace and increase vegetation citywide to help offset the release of greenhouse gases.
   - Promote green roof tops as a way to increase vegetation, lead by example and install a green roof on City Hall.

i. Expand consumer education programs to increase the public's awareness and understanding of air quality issues. (See the American Lung Association's Web site on air quality issues.)

j. Ensure that no one geographic area or socioeconomic group in the city is being unfairly impacted by air pollution.