

ENVIRONMENTAL MANAGEMENT ELEMENT



INTRODUCTION

The Environmental Management Element establishes policies for the management and conservation of the city's natural resources and the protection of the community from hazards, pollution, and excessive noise. Related policies are included in the Transportation, Disaster Preparedness and Safety, and Open Space and Recreation Elements. The City's Source Reduction and Recycling Element and Household Hazardous Waste Element, each adopted in 1992, are incorporated by reference into this Element. The Environmental Management Element fulfills State requirements for the conservation and noise elements.

Chapter IV "Environmental Quality" in *Conditions, Trends and Issues: A Background Report for Updating the General Plan* provided a detailed description of the city's natural resources and environmental policies and programs, which include the:

- Source Reduction and Recycling Element
- Household Hazardous Waste Element
- Recycling Policy Ordinance (Measure G)
- Residential Energy Conservation Ordinance
- Commercial Energy Conservation Ordinance
- Energy Crises Intervention Program
- Hazardous Material Area Plan and Hazardous Waste Importation Act
- Noise Ordinance
- Nuclear Free Berkeley Act

The City has adopted:

- The Joint Watershed Goals Statement with the cities of Albany, El Cerrito, and Richmond
- The City of Berkeley Resource Conservation and Global Warming Abatement Plan, which identifies actions necessary to achieve a 15% reduction in emissions by the year 2010 (a 129,000-metric-ton reduction)
- The Valdez Principles
- The Green Business Program
- The Environmental Economy Program
- The Green Building Initiative

POLICY BACKGROUND

Although Berkeley consists largely of urbanized, developed land, it does offer a great variety and abundance of natural resources and open space areas in the form of lush landscaping and urban vegetation, waterfront habitat along the shoreline, and wooded areas in the hills. The city also boasts a network of urban creeks descending from the hills to San Francisco Bay. Due to its long-established urbanized character, Berkeley has no active timber harvesting, mineral extraction, or fish and game industries. Agriculture in Berkeley is limited to personal and community gardens. Some fishing for personal use takes place at the Berkeley Marina, but commercial fishing operations are limited to recreational fishing charter boats.

Solid and Hazardous Wastes

Berkeley has a long history of concern for the environment, and in particular an interest in and commitment to reducing the amount of materials entering the solid waste stream. In compliance with State law, Berkeley adopted a 64% waste diversion goal through a Source Reduction and Recycling Element (SRRE) prepared pursuant to the California Integrated Waste Management Act. Although the City's goal of 64% exceeds the State-mandated 50% goal, Berkeley is currently diverting about 43% of its waste stream. Some of Berkeley's solid waste programs are privately operated, entirely independent of the public sector; some are privately owned but supported in one way or another by government; and some are conducted entirely by government entities. Solid and hazardous waste programs include:

Curbside Residential Recycling
Commercial Recycling
Organic Materials Collection
Certified Unified Program Regulation of
Hazardous Materials and Hazardous
Waste Oil Recycling Program
Asbestos Abatement Program
Recycling Market Development Zone
Polystyrene and Styrofoam ban
Community Conservation Centers' Drop-Off
and Buyback Program

Construction/Demolition Materials Recycling
Transfer Station Operation and Recycling
Used Motor Oil Recycling
Annual Neighborhood Cleanup
Illegal Dumping Collection and Bulky Goods
Collection
Coolants and Oils Recycling
Organic Materials Collection
Street Tree Wood Waste Recycling Program

Energy

The Berkeley community has also long been concerned about and involved with energy issues. In keeping with its progressive tradition, the City's efforts in planning and implementing energy conservation measures were among the first in the nation. Although recent energy usage figures show the community's

overall usage has declined in recent years, the long-term success of the City's energy programs will ultimately depend upon the community's ability to change its behavior patterns.

Green Building

Buildings consume 40% of the world's total energy and materials, 25% of the wood harvested, and 17% of the potable water. "Green" building practices can reduce these environmental and human health problems. A green building is sited, designed, constructed, and operated to enhance the well-being of its occupants, and to minimize the negative impacts on the community and the natural environment. In recent years, Berkeley has developed a Green Building Initiative, which seeks to make building green the "business as usual" choice for new construction and major remodel projects in Berkeley.

Streets, Sewers, and Essential Infrastructure

In recent years, there has also been growing concern about the state of Berkeley's essential infrastructure because of years of deferred maintenance, and the impact of that infrastructure on the environment. The City's 5-year Capital Improvement Program totals \$137 million in funding for capital improvements for 2002 to 2006, many of which are infrastructure improvements. The improvement of the City's sewer system accounts for \$39 million of the Capital Improvement Program budget, streets account for \$25 million, and parks and waterfront improvements account for \$16 million. A continued commitment to upgrading and maintaining the City's essential infrastructure will be essential to the health and vitality of the community and the environment for current and future generations. Figure 19 shows in dark lines the portions of Berkeley's sewer system that have been upgraded.

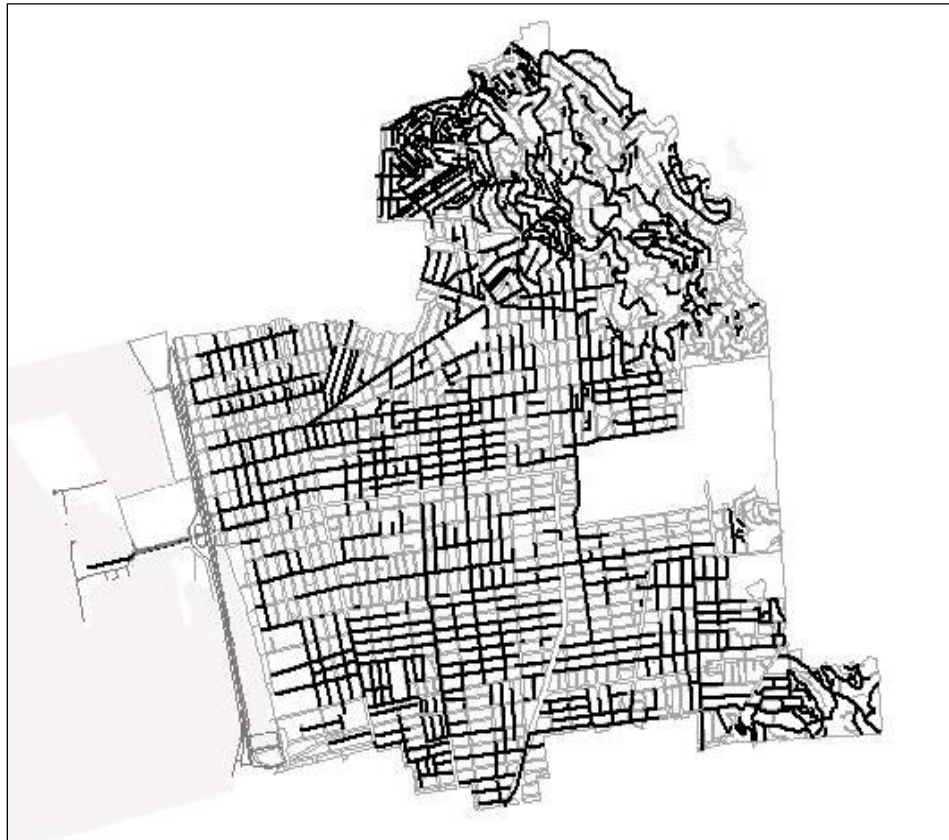


Figure 19: Sewer System Improvements

Creeks and Watercourses

The City of Berkeley contains five principal creeks: Derby, Potter, Strawberry, Schoolhouse, and Codornices, all of which flow west from the Berkeley Hills into San Francisco Bay. In addition, eight other creeks are at least partially within the City limits. Prior to urbanization, Berkeley's creek system provided a rich riparian habitat for aquatic and terrestrial plant and animal life. The natural watercourses minimized erosion, handled floodwaters, contributed to groundwater reserves and moderated temperature extremes. Most of the creeks in the flatlands are contained within underground drain culverts, a notable exception being Codornices Creek. In hillier areas, the creeks remain largely aboveground except under streets. In recent years, there has been a movement to attempt to "daylight" these underground creeks to once again flow aboveground. As a first effort, a 200-foot stretch of Strawberry Creek was opened in the City's Strawberry Creek Park. More recent examples are the block of Codornices Creek between Eighth and Ninth Streets, and Blackberry Creek in the Thousand Oaks School Park. Figure 20 illustrates the general location and condition of each of the city's major creeks.

In 1989, the City of Berkeley passed Ordinance No. 5961, entitled Preservation and Restoration of Natural Watercourses. The purposes of the ordinance are to regulate any future culverting of or construction in open creeks, to encourage the rehabilitation and restoration of natural waterways, and to promote responsible management of watersheds. Among the provisions of the ordinance are prohibitions against obstructing or interfering with watercourses; required setbacks for new construction; and requirements for obtaining of permits for construction of walls, drains, and bulkheads.



Figure 20: Berkeley Creeks

Trees and the Urban Forest

The City has an extensive public street tree program. The Parks and Waterfront Department maintains 30,000 street trees and 5,000 trees in the City's parks. Under the City's Tree Planting Program, the City plants up to 600 trees for city residents at no cost to the resident other than an agreement by the resident to water the tree. Most of the city's street trees are typically located in a three- to four-foot-wide grassy planting strip alongside the sidewalk. The City is currently on a five-year pruning cycle designed to ensure that every tree is pruned at least once every five years. Herbaceous and shrub vegetation is planted along with street trees in medians along many of the city's major roadways.

An inventory of Berkeley's street trees in the late 1980s found the following tree species to be most abundant in Berkeley:

Sycamore, London Plane (<i>Platanus acerifolia</i>)	Pittosporum, Victorian Box (<i>Pittosporum undulatum</i>)
Plum, Purple Leaf (<i>Prunus cerasifera</i>)	Ash, Shamel (<i>Fraxinus uhdei</i>)
Liquidambar (<i>Liquidambar styraciflua</i>)	Elm, English (<i>Ulmus procera</i>)
Camphor (<i>Cinnamomum camphora</i>)	Ash, Modesto (<i>Fraxinus velutina glabra</i>)
Elm, Chinese (<i>Ulmus parvifolia</i>)	
Cherry, Oriental (<i>Prunus serrulata</i>)	

Most of the above-listed species are not native to the Berkeley area, but do well in the Mediterranean-type climate and have characteristics suitable for street trees.

In 1990, the City of Berkeley adopted a Tree Policy. The goal of the Tree Policy is to care for and maintain the trees growing in the parkways and parks in the city. The Policy sets forth specific guidance on tree species criteria and tree selection, planting methods, consideration of views, agreement with neighboring property owners regarding continued watering, tree replacement, emergency tree work, and tree protection and care.

Air Quality

In contrast to some areas of the Bay Area Air Basin, air quality in Berkeley generally meets clean air standards on most days. Air quality concerns that do occur in Berkeley are more related to air contaminants for which there are no established safe standards. These contaminants include airborne carcinogens and nuisance sources, such as odors or dust. While the meteorology is generally favorable for minimizing air pollution, the Berkeley area is a source region for air quality problems in downwind communities. This impact is exacerbated by the frequent traffic congestion in Berkeley. Consequently, emission reductions in Berkeley will have a limited local benefit, but will be an important contributor to attaining/maintaining clean air standards in the region.

Transportation is the major contributor to regional air pollution. Stationary sources (e.g., smokestack industries) were once important sources of both regional pollution as well as a local nuisance. Their role in the pollution picture--regionally and locally--has been substantially reduced in recent years by pollution control programs of the Bay Area Air Quality Management District (BAAQMD). Any further progress in air quality improvement now focuses heavily on the automobile.

Noise

Major noise sources in Berkeley include cars, trucks, buses, trains, industrial plant equipment noise, and activities associated with neighborhoods and schools (lawn mowing and leaf blowing, children playing,

noise that can be expected on any given day. Comprehensive noise measurements were taken throughout the city in 1973 and 1995. Small decreases in noise levels have occurred along much of San Pablo Avenue and along portions of Ashby Avenue since 1973. Some increases in noise levels have been observed along a number of roadways, including portions of Sixth Street, Martin Luther King Jr. Way, Milvia Street, Shattuck Avenue, Oxford Street, Claremont Avenue, Grizzly Peak Boulevard, Gilman Street, Hopkins Street, Delaware Street, Hearst Avenue, and Dwight Way. These changes are consistent with the recent citywide traffic counts which show that although traffic has increased on some streets, actual traffic volume and traffic speeds have lowered on other streets, which would result in a reduction in noise levels. However, a closer comparison of the two studies shows that the recorded differences may instead be due to slight differences in how the measurements were taken or the particular conditions on the day the measurements were taken.

Noise sources related to heavy manufacturing, located mainly in industrialized West Berkeley, were once a more dominant contributor to the noise environment. In the past, noise-related land use conflicts between West Berkeley and other more residential sectors of the city were at a minimum, given the distance between these areas. More recently, however, increased residential and commercial uses in West Berkeley have begun to threaten industrial uses, in part through a changing perception of environmental standards as they relate to the manufacturing process. The presumption in the past in most industrially zoned areas was that noise generated by an industrial use was an acceptable part of the manufacturing context. The *Concept Plan for West Berkeley* was adopted in 1991 and included policies to address these types of noise conflicts in order to maintain the historic mix of land uses in an environmentally responsible manner. The *West Berkeley Plan*, adopted in 1993, calls for more stringent environmental review and regulation, including the mitigation of noise through both industrial and residential measures.

The City's Noise Ordinance sets limits for permissible noise levels during the day and night according to the zoning of the area. The Noise Ordinance does not recognize residents living in non-residential zones, such as in West Berkeley. In addition, if *ambient noise* (the general level of noise in the area) exceeds the standard, that ambient noise level becomes the allowable noise level. Enforcement of the Berkeley Noise Ordinance (Chapter 13.40 of the Municipal Code) is often related to commercial or industrial mechanical equipment that is sited near residential uses.

ELEMENT OBJECTIVES

The policies and actions of the Environmental Management Element are intended to make Berkeley a more environmentally sustainable community by achieving the following eight objectives:

1. Promote development and coordination of local and regional environmental management programs and facilitate community participation in environmental protection and conservation.
2. Reduce solid and hazardous wastes and minimize risk from hazardous materials.
3. Reduce emissions and improve air quality.
4. Conserve water, improve water quality, and facilitate creek restoration.
5. Protect, maintain, and enhance the urban forest (including street and park trees) and natural habitat areas.
6. Support and promote a local food system based upon sustainable regional agriculture to assure access to healthy, affordable, and culturally appropriate foods.

7. Reduce nonrenewable energy consumption and unnecessary glare from inappropriate lighting.
8. Protect the community from excessive noise levels.

POLICIES AND ACTIONS

ENVIRONMENTAL MANAGEMENT PROGRAMS

Policy EM-1 City of Berkeley Leadership

Maintain Berkeley's position as a leader in the adoption and implementation of environmental management programs.

Actions:

- A. Consider environmental and social costs in all decision-making and budget decisions.
- B. Ensure full disclosure of information about environmental consequences of City decisions.
- C. Continue to develop and use scientifically based environmental management principles to inform decisions regarding economic, social, and physical planning.
- D. Coordinate City regulatory and educational functions to facilitate environmental management goals.
- E. Adopt a comprehensive Environmental Leadership policy to integrate environmental policies and communicate the City's Environmental Leadership Mission to the public.

Policy EM-2 Sustainable Berkeley

Maintain Berkeley's position as a leader in the creation and implementation of sustainable community practices and programs.

Actions:

- A. Ensure that City activities are accomplished in a coordinated way, governed by our overarching goal of sustainability.
- B. Align City mission statements, budgeting, and operations with sustainability goals. Consider sustainability criteria in City policy, City purchasing, municipal operations, and program decisions.
- C. Consider establishing a coordinating body to spearhead and accelerate organizational and community implementation of sustainable practices and to ensure integration of environmental, economic, and social policies and programs.
- D. Report progress on sustainability goals regularly as part of the General Plan Annual Review. Conduct a Sustainability Assessment using the activity to set targets to meet goals and monitor future action.
- E. Obtain certification as a sustainable municipal operation.
- F. Promote the adoption of sustainable activities by the public, businesses, and organizations.

Policy EM-3 Regional Coordination

Promote the City's environmental management and sustainability policies and programs and encourage other cities in the region to establish similar or better policies and programs.

Actions:

- A. Coordinate Berkeley's sustainability and environmental management programs with other, related programs in the region.
- B. Support regional efforts to create economic incentives to encourage environmental management and sustainability by cities, businesses, and households.
- C. Support public-private environmental management and sustainability partnerships with the scientific, environmental, educational, and business communities to develop sustainable applications for public and private use and to implement educational programs for households, public agencies, and businesses.

EM-4 Green Building Certification

Develop a green building certification program.

Actions:

When developing the program consider:

- A. Requiring City-owned buildings, buildings developed by private developers on City-owned and controlled land, and projects that include City financial assistance to be Green Building certified.
- B. Encouraging all private buildings to be Green Building certified.
- C. Developing a green design assistance program.
- D. The minimization of greenhouse gases produced by new buildings especially as related to space heating efficiencies.

Policy EM-5 “Green” Buildings

Promote and encourage compliance with “green” building standards. (*Also see Urban Design and Preservation Policy UD-33.*)

Actions:

- A. Encourage, and where appropriate require, new construction and major remodel projects to be sited, designed, constructed, and operated to enhance the well-being of their occupants, and to minimize present and future impacts on the community and the natural environment. (*Also see Policy EM-39.*)
- B. Encourage landscaping for water and energy efficiency. (*Also see Policy EM-26.*)
- C. Encourage buildings to incorporate renewable energy and energy- and water-efficient technologies. (*Also see Policies EM-38 and EM-39.*)
- D. Encourage use of recycled-content construction materials. (*Also see Policy EM-6.*)

- E. Encourage efforts to improve indoor air quality and to provide a comfortable and healthy environment.
- F. Encourage reduction of construction and demolition waste. *(Also see Policy EM-6.)*
- G. Encourage construction of durable buildings.
- H. Establish a green design assistance and green building certification program.

Policy EM-6 Nuclear Free Berkeley

Continue to enforce the provisions of the Nuclear Free Berkeley Act. The City shall not invest in or contract with entities that are engaged in Nuclear Weapons work, except under the limited circumstances outlined in the Act. The City shall provide timely notice of proposals to waive the Nuclear Free Act, so that citizens are assured the opportunity to comment on any proposed waiver of the Nuclear Free Act. It shall therefore be City of Berkeley policy that the City supports First Amendment actions to defend the Berkeley Nuclear Free Act.

SOLID AND HAZARDOUS WASTE AND REGULATIONS

Policy EM-7 Reduced Wastes

Continue to reduce solid and hazardous wastes.

Actions:

- A. Achieve a 64% diversion of waste from landfills.
- B. Manage wastes locally to the greatest extent feasible to minimize the export of wastes and pollution to other communities.
- C. Encourage the Lawrence Berkeley Laboratory and the University of California to minimize to the greatest extent feasible the storage of radioactive and other toxic wastes in Berkeley.
- D. Encourage reduction in the use of toxic materials.
- E. Encourage reuse, recycling, and composting.
- F. Facilitate battery and used oil recycling.
- G. Support programs and incentives to reduce the manufacture and use of materials which are non-recyclable or hazardous to people and the environment.
- H. Develop education and promotion programs to increase recycling by occupants of multi-family buildings.
- I. Through legislation and other means, reduce the use of plastic by eliminating multiple layers in packaging and encourage reusable shipping containers such as collapsible pallets and refillable bottles for bulk liquids.
- J. Encourage reusable bags and packaging such as reusable bottles, whether glass or plastic.
- K. Link collection of plastic to mandated recycled content in plastic packaging.

- L. Advocate at the state level for higher disposal fees for products that are designed for single use and for products that do not incorporate any post-consumer recycled content.

Policy EM-8 Building Reuse and Construction Waste

Encourage rehabilitation and reuse of buildings whenever appropriate and feasible in order to reduce waste, conserve resources and energy, and reduce construction costs. *(Also see Urban Design and Preservation Policy UD-6.)*

Actions:

- A. Encourage the reuse of demolition materials and recycling of construction scraps.
- B. Expand the existing yard-waste recycling program to include restaurant and institutional food waste.

Policy EM-9 Recycling and Waste Transfer Stations

Ensure convenient access for Berkeley citizens to transfer stations, recycling, composting, and collection of household hazardous waste products.

Action:

- A. Seek to identify a site for and develop a Berkeley hazardous waste drop-off facility, or develop a citywide pickup program.

Policy EM-10 Materials Recovery and Remanufacturing

Support and encourage serial materials recovery and remanufacturing industries. *(Also see Economic Development and Employment Policy ED-7.)*

Action:

- A. Consider zoning changes to facilitate relocation and establishment of recovery and remanufacturing industries.

Policy EM-11 Biodegradable Materials and Green Chemistry

Support efforts to phase out the use of long-lived synthetic compounds, such as pesticides and vehicle anti-freeze, and certain naturally occurring substances which do not biodegrade. Encourage efforts to change manufacturing processes to use biodegradable materials, recycle manufactured products, reuse by-products, and use “green” products.

Actions:

- A. Encourage citywide efforts to phase out or minimize the use of synthetic fertilizers, hazardous household wastes, toxic cleaning agents, herbicides, and pesticides.
- B. Require City departments to use nontoxic materials whenever possible.
- C. Encourage retailers to stock nontoxic alternatives to hazardous products.

Policy EM-12 Education

Work with other State and local agencies to educate business owners and residents regarding safe use, recycling, and disposal of toxic materials; reducing hazardous household wastes; and substitutes for these substances.

Actions:

- A. Implement business operator education and hazardous materials minimization programs to avoid accidental releases of hazardous materials.
- B. Conduct periodic training exercises for the identification, containment, decontamination, and disposal of hazardous materials.

Policy EM-13 Hazardous Materials Disclosure

Continue to require the disclosure of hazardous materials usage and encourage businesses using such materials to prepare and implement a plan to reduce the use of hazardous materials and the generation of hazardous wastes.

Policy EM-14 Hazardous Material Regulation

Control and regulate the use, storage and transportation of toxic, explosive, and other hazardous and extremely hazardous material to prevent unauthorized and accidental discharges. *(Also see Disaster Preparedness and Safety Policy S-14.)*

Actions:

- A. Regularly inspect businesses using, storing, transporting, or generating hazardous materials or wastes to ensure compliance with federal, state, and local regulations.
- B. Require facility operators to write and implement contingency plans in preparation for emergency situations and accidental releases. Additionally, require facilities to train their employees on how to activate the contingency plans.

Policy EM-15 Environmental Investigation

When reviewing applications for new development in areas historically used for industrial uses, require environmental investigation as necessary to ensure that soils, groundwater, and buildings affected by hazardous material releases from prior land uses would not have the potential to affect the environment or the health and safety of future property owners, users, or construction workers. *(Also see Disaster Preparedness and Safety Policy S-15.)*

Policy EM-16 Risk Reduction

Work with owners of vulnerable structures with significant quantities of hazardous material to mitigate potential risks. *(Also see Disaster Preparedness and Safety Policy S-13.)*

Policy EM-17 Warning Systems

Establish a way to warn residents of a release of toxic material or other health hazard, such as sirens and/or radio broadcasts. *(Also see Disaster Preparedness and Safety Policies S-1 and S-9.)*

AIR QUALITY

Policy EM-18 Regional Air Quality Action

Continue working with the Bay Area Air Quality Management District and other regional agencies to:

- 1. Improve air quality through pollution prevention methods.
- 2. Ensure enforcement of air emission standards.
- 3. Reduce local and regional traffic (the single largest source of air pollution in the city) and promote public transit.
- 4. Promote regional air pollution prevention plans for business and industry.

5. Promote strategies to reduce particulate pollution from residential fireplaces and wood-burning stoves.
6. Locate parking appropriately and provide adequate signage to reduce unnecessary “circling” and searching for parking.

Policy EM-19 15% Emission Reduction: Global Warming Plan

Make efforts to reduce local emissions by 15% by the year 2010. *(Also see Transportation Policy T-19.)*

Action:

- A. Continue to support and implement local emission reduction programs, such as the City of Berkeley Employee Fleet Bicycle Program, the Police Bicycle Program, and the actions recommended in the City of Berkeley Resource Conservation and Global Warming Abatement Plan.

Policy EM-20 City of Berkeley Fleet

The City should exceed Federal and State standards for all City fleet vehicles and use all means practical to reduce emissions of criteria pollutants and greenhouse gases. *(Also see Transportation Policy T-11.)*

Actions:

- A. Through attrition, eliminate all heavy-duty, diesel-fueled vehicles.
- B. All vehicle acquisitions should be of a size and fuel-type (including bicycles, ultra-light vehicles, electric vehicles and/or hybrid vehicles, and premium-efficiency conventional vehicles) that are appropriate for the tasks and have the least amount of emissions.
- C. Continue to convert fleet vehicles to natural gas, electricity, and other alternative fuels. Substitute bicycles for energy-powered vehicles whenever possible.

Policy EM-21 Alternative Fuels

Work with the University of California, the Berkeley Unified School District, and other agencies to establish natural gas fueling and electric vehicle recharging stations accessible to the public.

Policy EM-22 Public Awareness

Increase public awareness of air quality problems, rules, and solutions through use of City publications and networks.

Action:

- A. Work on a local and regional level to improve air quality for Berkeley residents and the region.

WATER QUALITY AND CREEKS

EM-23 Water Quality in Creeks and San Francisco Bay

Take action to improve water quality in creeks and San Francisco Bay.

Actions:

- A. Work with the East Bay Municipal District (EBMUD) to ensure that wastewater discharges comply with the requirements of EBMUD’s Wastewater Control Ordinance No. 311 to manage wastewater treatment discharges to protect San Francisco Bay.

- B. To minimize storm sewer pollution of San Francisco Bay, maintain an effective street sweeping and cleaning program.
- C. Identify and eliminate cross connections between the sanitary sewer and storm sewer systems.
- D. Restore a healthy freshwater supply to creeks and the Bay by eliminating conditions that pollute rainwater, and by reducing impervious surfaces and encouraging use of swales, cisterns, and other devices that increase infiltration of water and replenishment of underground water supplies that nourish creeks.
- E. Increase public awareness of the value of promoting healthy watersheds and aquifers. Use mailings and similar methods to educate residents, particularly creek-side property owners, about how they can protect and improve water quality, lessen erosion, and improve habitat and creek restoration projects. Support education campaigns to eliminate dumping of paint, chemicals, and other pollutants into the storm drain system.
- F. Encourage the maintenance and restoration of creeks and wetlands and appropriate planting to cleanse soil, water, and air of toxins.

Policy EM-24 Sewers and Storm Sewers

Protect and improve water quality by improving the citywide sewer system.

Actions:

- A. Adequately fund sewer system improvements necessary to maintain water quality in natural areas and reduce public health hazards.
- B. Identify and eliminate illegal roof-leader and other illegal connections to the sewer system.
- C. Establish a program for the identification and remediation of faulty laterals on private property. Consider requiring inspection and repair as a condition of property transfer.
- D. Identify alternative funding sources for essential infrastructure improvements such as grants, public-private partnerships, and special benefit districts.
- E. Ensure that new development pays its fair share of improvements to the storm sewerage system necessary to accommodate increased flows from the development.
- F. Coordinate storm sewer improvements with creek restoration projects.

Policy EM-25 Groundwater

Protect local groundwater by promoting enforcement of state water quality laws that ensure non-degradation and beneficial use of groundwater.

Policy EM-26 Water Conservation

Promote water conservation through City programs and requirements.

Actions:

- A. Encourage drought-tolerant landscaping and low-flow irrigation systems.

- B. Consider participation in the East Bay Municipal Utility District's East Bay-shore Recycled Water Project to make recycled water available for irrigation and other non-potable uses.

Policy EM-27 Creeks and Watershed Management

Whenever feasible, daylight creeks by removing culverts, underground pipes, and obstructions to fish and animal migrations. *(Also see Disaster Preparedness and Safety Policy S-28 and Land Use Policy LU-20.)*

Actions:

- A. Seek funding sources to acquire and preserve land within creek corridors for restoration or day-lighting.
- B. Establish, where appropriate or feasible, pedestrian and bicycle paths along creek-side greenways to connect neighborhoods and commercial areas.
- C. Encourage day-lighting of creeks on public lands as well as along creeks that are substantially open and accessible to the public.
- D. Restrict development on or adjacent to existing open creeks. When creeks are culverted, restrict construction over creeks and encourage design solutions that respect or emphasize the existence of the creek under the site.
- E. Ensure that creek day-lighting proposals include appropriate landscaping, allow for adequate access, and carefully consider the urban context, the impact on existing recreational spaces, and the economic impact on the property and nearby properties.
- F. Work in cooperation with adjoining jurisdictions to jointly undertake creek and wetland restoration projects, to improve water quality and wildlife habitat, to allow people to enjoy creeks as part of urban open space, and to create creek-side transportation corridors for pedestrians and bicycles, as described in the 1995 Joint Watershed Goals Statement.
- G. Regulate new development within 30 feet of an exposed streambed as required by the Creeks Ordinance and minimize impacts on water quality and ensure proper handling of stormwater runoff by requiring a careful review of any public or private development or improvement project proposed in water sensitive areas.
- H. Consider amending the Creek Ordinance to restrict parking and driveways on tops of culverts and within 30 feet of creeks.
- I. Consider replacing culverts under streets with open bridging when feasible.

HABITAT AND THE URBAN FOREST

Policy EM-28 Natural Habitat

Restore and protect valuable, significant, or unique natural habitat areas. *(Also see Open Space and Recreation Policy OS-9.)*

Actions:

- A. Restore the natural habitat and improve water quality in the Aquatic Park lagoon.

- B. Where appropriate, balance increased use of open space and public lands with enhancement of natural habitat.
- C. Preserve and enhance coastal and riparian areas and water flows necessary to support natural habitat and wildlife.

Policy EM-29 Street and Park Trees

Maintain, enhance, and preserve street and park trees to improve the environment and provide habitat.

Actions:

- A. Develop a street and park tree management plan to create a vibrant and well maintained tree population throughout the city. Wherever possible, tree replacement should emphasize native tree and plant species and maintain, to the extent feasible, street tree canopies over the street. *(Also see Urban Design and Preservation Policy UD-9.)*
- B. Prioritize South and West Berkeley for additional street tree planting.
- C. Ensure that new development preserves existing trees, wherever feasible, and adds trees in the public right-of-way, where appropriate.
- D. Maintain standards to ensure parking lot tree canopy coverage.
- E. Maintain programs to ensure the timely removal and replacement of unhealthy or inappropriate street or park trees.
- F. Preserve and protect heritage trees, including native oaks and other significant trees on public and private property whenever feasible.
- G. Discourage the filling of planter strips with concrete.

Policy EM-30 Native Plants

Use native tree and plant species to enhance ecological richness.

Action:

- A. Where appropriate, use native landscaping in new and replacement plantings, and remove non-native plants to create ecological corridors for wildlife habitation.

Policy EM-31 Landscaping

Encourage drought-resistant, rodent-resistant, and fire-resistant plants to reduce water use, prevent erosion of soils, improve habitat, lessen fire danger, and minimize degradation of resources.

Policy EM-32 Inter-Jurisdictional Coordination

Encourage efforts by neighboring jurisdictions and agencies, such as the East Bay Regional Park District, the University of California at Berkeley, and the Lawrence Berkeley National Laboratory, to restore historic coastal grasslands and native trees in the hill area to provide natural habitat and reduce fire danger in the area.

Policy EM-33 Citizen Efforts

Encourage citizen efforts to restore ecological resources and open space areas, such as pathways and stairways.

Action:

- A. Work with citizens and businesses to maintain clean streets, sidewalks, and building exteriors.

LOCAL FOOD SYSTEMS

Policy EM-34 Local Food Systems

Increase access to healthy, affordable, and culturally appropriate foods for the people of Berkeley by supporting efforts to build more complete and sustainable local food production and distribution systems. *(Also see Open Space and Recreation Policy OS-8.)*

Actions:

- A. Encourage efforts by the Berkeley Unified School District, the University of California, and other institutions to provide training and instruction in food and plant production.
- B. Support community outreach and education to strengthen organic sustainable food systems in the city and the region.
- C. Promote the purchase of food from local producers for schools, senior centers, after-school programs, food provision programs, and other social programs. Encourage the donation of fresh produce from community gardens to local food programs.
- D. Continue to make the City’s composted waste available to community and school gardens.
- E. Promote seed distribution, lead testing, and composting programs for community gardens.
- F. Provide sites for local farmers’ markets and community gardens.
- G. Encourage buildings that incorporate rooftop gardens that may be used for gardening.
- H. Encourage neighborhood initiatives to grow native and fruit-bearing trees.

ENERGY AND LIGHTING

Policy EM-35 Energy-Efficient Design

Promote high-efficiency design and technologies that provide cost-effective methods to conserve energy and use renewable energy sources. *(Also see Urban Design and Preservation Policy UD-33.)*

Action:

- A. Promote statewide code revisions necessary to enable the use of new methods and materials to conserve resources and prevent pollution.

Policy EM-36 Energy Conservation

Continue to implement energy conservation requirements for residential and commercial buildings at the time of sale and at time of major improvements.

Actions:

- A. Encourage patterns of development, building designs, and construction methods that are energy-efficient and reduce pollution.
- B. Encourage the use of lighting that is energy-efficient and non-intrusive.

Policy EM-37 Partnerships

Support public-private organizations established to implement energy conservation practices within the community.

Policy EM-38 Alternative Sources

Support efforts to produce energy through local alternative sources.

Actions:

- A. Consider establishing a program of incentives to encourage conversion of residential, commercial, and/or institutional buildings to local alternative energy sources.
- B. Consider establishing a subsidy program to enable low-income households to benefit from conservation and alternative power programs.

Policy EM-39 Business Energy Conservation

Encourage all businesses to implement energy conservation plans.

Policy EM-40 Market Support

Support the market for energy-efficient technologies and services.

Policy EM-41 Fossil Fuel

Encourage and support efforts to reduce use of fossil fuel and other finite, nonrenewable resources.

Actions:

- A. Wherever feasible, purchase low-emission, fuel-efficient vehicles and phase out use of diesel-fuel vehicles.
- B. Encourage actions that provide access by proximity, such as locating housing closer to transportation, commercial services, and job centers. (*Also see Transportation Policy T-16, Housing Policy H-16, and Land Use Policy LU-23.*)
- C. Encourage use of “bio-diesel” fuel as an alternative to fossil fuel.

Policy EM-42 Outdoor and Street Lighting

Outdoor lighting should be chosen to avoid glare and provide an attractive nighttime environment with “fully shielded” fixtures to limit light rays emitted above the horizontal plane.

NOISE

Policy EM-43 Noise Reduction

Reduce significant noise levels and minimize new sources of noise.

Actions:

- A. Increase enforcement of the Noise Ordinance to reduce noise impacts.
- B. Consider improvements to the Noise Ordinance to improve the City's ability to reduce noise impacts.
- C. Promote increased public awareness concerning the negative effects of excessive noise on humans.

Policy EM-44 Noise Prevention and Elimination

Protect public health and welfare by eliminating existing noise problems where feasible and by preventing significant future degradation of the acoustic environment.

Actions:

- A. Incorporate noise considerations into land use planning decisions.
- B. Ensure the effective enforcement of City, State, and Federal noise levels by appropriate City departments.
- C. Coordinate with the California Occupational Safety and Health Administration (Cal-OSHA) to provide information on and enforcement of occupational noise requirements within the City of Berkeley.
- D. Support Federal and State legislation to lower allowable noise level on all motor vehicles.

Policy EM-45 Traffic Noise

Work with local and regional agencies to reduce local and regional traffic, which is the single largest source of unacceptable noise in the city.

Actions:

- A. Encourage neighborhood traffic calming strategies that cause motorists to slow down and decrease noise levels in all residential areas. (*Also see Transportation Policy T-20.*)
- B. Through the taxi permit process, restrict taxis and shuttles from honking in neighborhoods.
- C. Minimize potential transportation noise through proper design of street circulation, coordination of routing, and other traffic control measures.
- D. Promote and encourage new vehicle technologies to reduce transportation noise levels.
- E. Construct a noise barrier for Aquatic Park. (*Also see Open Space and Recreation Policy OS-8.*)
- F. Enforce muffler laws.
- G. Work with AC Transit to reduce bus noise. (*Also see Transportation Policy T-2.*)

- H. Establish noise emission limits on City public works projects and vehicles, such as refuse collection trucks, and work with other large institutions in the city, such as BUSD, to reduce vehicle noise emissions.

Policy EM-46 Noise Mitigation

Require operational limitations and all feasible noise buffering for new uses that generate significant noise impacts near residential, institutional, or recreational uses.

Actions:

- A. Promote use of noise insulation materials in new construction and major rehabilitation.
- B. Mitigate significant noise impacts on parks and public open space, whenever feasible. (*Also see Open Space and Recreation Policy OS-12.*)

Policy EM-47 Land Use Compatibility

Ensure that noise-sensitive uses, including, but not limited to, residences, child-care centers, hospitals, and nursing homes, are protected from detrimental noise levels.

Action:

- A. Noise-sensitive development proposals should be reviewed with respect to the Land Use Compatibility Guidelines below.

If the noise level is within the “normally acceptable” level, noise exposure would be acceptable for the intended land use. Development may occur without requiring an evaluation of the noise environment unless the use could generate noise impacts on adjacent uses.

If the noise level is within the “conditionally acceptable” level, noise exposure would be conditionally acceptable; a specified land use may be permitted only after detailed analysis of the noise environment and the project characteristics to determine whether noise insulation or protection features are required. Such noise insulation features may include measures to protect noise-sensitive outdoor activity areas (e.g., at residences, schools, or parks) or may include building sound insulation treatments such as sound-rated windows to protect interior spaces in sensitive receptors.

If the noise level is within the “normally unacceptable” level, analysis and mitigation are required. Development should generally not be undertaken unless adequate noise mitigation options have been analyzed and appropriate mitigations incorporated into the project to reduce the exposure of people to unacceptable noise levels.

If the noise level is within the “clearly unacceptable” level, new construction or development should not be undertaken unless all feasible noise mitigation options have been analyzed and appropriate mitigations incorporated into the project to reduce exposure of people to unacceptable noise levels.