

Context and Framework

We offer the following background information as a way of placing the Green Gateway Business Community in the wider context of (1) Benicia's General Plan, (2) California Assembly Bill AB32, the California Global Warming Solutions Act (now a section of our California Health and Safety Code), and (3) an understanding of "sustainability."

1. General Plan goals

Benicia's General Plan governs all forms of community development and lays out goals for Sustainability, Identity and Health and Safety. Our General Plan is the law in Benicia. A summary of relevant and applicable goals follows. The whole General Plan is an integrated document the overarching goal of which is sustainability. All goals and policies contribute to the whole, therefore the following is not an exhaustive list.

Community Development and sustainability - Growth Management

- 2.1 Preserve Benicia as a small sized city
- 2.2 Maintain lands near Lake Herman and north of Lake Herman Road in permanent agriculture/open space
- 2.3 Ensure orderly and sensitive site planning and design for large undeveloped areas of the city
- 2.4 Ensure that development pays its own way

Community Development and Sustainability - Economic Development

- 2.5 Facilitate and encourage new uses and development which provide substantial and sustainable fiscal and economic benefits
- 2.6 Attract and retain a balance of different kinds of industrial uses
- 2.7 Attract and retain industrial facilities that provide fiscal and economic benefit to Benicia

Community Development and Sustainability - Downtown

- 2.12 Strengthen the Downtown as the City's central commercial zone
- 2.13 Support the economic viability of existing commercial centers

Community Development and Sustainability - Circulation

- 2.14 Enhance Benicia's small town atmosphere of pedestrian-friendly streets and neighborhoods
- 2.15 Provide a comprehensive system of pedestrian and bicycle routes which link the various components of the community; employment centers, residential areas, commercial areas, schools, parks, open space
- 2.17 Provide an efficient, reliable and convenient transit system
- 2.18 Encourage the provision of convenient rail service to Benicia with a station near the Benicia Bridge
- 2.21 Encourage Benicia residents and employees to use alternatives to the single occupant automobile
- 2.22 Alleviate traffic near school sites
- 2.24 Continue to provide safe and direct access to the Industrial Park
- 2.26 Ensure that scenic and environmental amenities of I-680 and I-780 are not compromised
- 2.27 Ensure an active community deliberation process in response to Caltrans proposals now and in the future

Community Services - Parks

- 2.31 Maintains safety and parks/open space
- 2.32 Expand the City's park system to accommodate the city's future needs

Community Development and Sustainability - Community Services - Water

- 2.36 Ensure an adequate water supply for current residences and businesses
- 2.37 Identify and preserve groundwater resources
- 2.38 Protect water quality
- 2.40 Ensure adequate wastewater treatment capacity to serve all development shown in the General Plan

Community Development and Sustainability - Community Services - Recycling

- 2.42 Enhance the recycling of solid waste

Community Development and Sustainability - Community Services - Utilities

- 2.43 Allow installation of telecommunications equipment and distribution networks that maintain and protect health, safety and quality of life and avoid visual clutter

Community Identity - Historic Preservation

- 3.1 Maintain and enhance Benicia's historic character

Community Identity - Historic and Archaeological Resources

- 3.2 Protect archaeological (including underwater) sites and resources

Community Identity - Cultural

- 3.3 Increase public awareness of cultural resources and activities
- 3.5 Promote events with wide community attraction

Community Identity - Art

- 3.6 Support and promote the arts as a major element in Benicia's community

Community Identity - Visual character

- 3.7 Maintain and reinforce Benicia's small town visual characteristics
- 3.8 Preserve First Street as the community focal point of Benicia
- 3.9 Protect and enhance scenic roads and highways
- 3.10 Enhance the streetscape along Military East and West
- 3.11 Enhance the eastside
- 3.12 Improve the appearance of the Industrial Park

Community Health and Safety

- 4.1 Make community health and safety a high priority
- 4.6 Prevent and reduce crime in the community
- 4.7 Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials
- 4.9 Ensure clean air for Benicia residents
- 4.10 Support improved regional air quality
- 4.11 Minimize harm from geologic hazards
- 4.12 Accommodate runoff from existing and future development
- 4.14 Prevent ground and surface water contamination
- 4.17 Minimize hazardous waste generation
- 4.23 Reduce or eliminate the effects of excessive noise

2. AB 32 - California Global Warming Solutions Act – (Passed by the California Assembly and approved by the Governor September 27, 2006). Our California Health and Safety Code relating to air pollution now mandates a reduction in greenhouse gas emissions back to the “1990 emissions baseline” by 2020. By 2020 the bill would require the state board to adopt regulations to require the reporting and verification of statewide greenhouse gas emissions and to monitor and enforce compliance with this program. The bill defines “greenhouse gas emissions limit” as an authorization, during a specified year, to emit up to a level of greenhouse gases specified by the state board, expressed in tons of carbon dioxide equivalents. (Greenhouse gas or greenhouse gases includes all of the following gases: carbon dioxide, methane, nitrous oxide, hydroflourocarbons, perfluorocarbons, and sulphur hexaflouride.)

Greenhouse gas emissions predominantly come from Transportation (38%), Industry (20%) and Electricity (23%) according to a study of 2002-2004 by the Air Resources Board. When considering any development, it is clear that the City's responsibility lies in encouraging reduction in traffic and alternate transportation solutions, green-tech solutions to building and alternative sources of energy.

The AB32 goal should primarily be achieved through innovative land-use and transportation strategies to (1) reduce per capita “vehicle miles traveled”; and (2) reduce buildings’ energy consumption, through following LEED Neighborhood Development Rating System criteria for the entire buildable site area. An example of the kind of plan seeking to meet sustainability criteria under AB32 is the Rohnert Park “Sonoma Mountain Village” development. “Toward Sustainability: The Rohnert Park Story”, the presentation by Jake Mackenzie, Mayor, City of Rohnert Park, to the Haagen-Smit Symposium, April 2008.].

From the Attorney General's Office, titled: “The California Environmental Quality Act – Addressing Global Warming Impacts at the Local Agency Level”, comes the following recommendations that local agencies can require of development projects in order to carry out their duties under CEQA as they relate to Global Warming and AB32: (See <http://ag.ca.gov>)

Energy Efficiency

- Design buildings to be energy efficient. Site buildings to take advantage of shade, prevailing winds, landscaping and sun screens to reduce energy use.
- Install efficient lighting and lighting control systems. Use daylight as an integral part of lighting systems in buildings.
- Install light colored “cool” roofs, cool pavements, and strategically placed shade trees.
- Provide information on energy management services for large energy users.
- Install energy efficient heating and cooling systems, appliances and equipment, and control systems.
- Install light emitting diodes (LEDs) for traffic, street and other outdoor lighting.
- Limit the hours of operation of outdoor lighting.
- Use solar heating, automatic covers, and efficient pumps and motors for pools and spas.
- Provide education on energy efficiency.

Renewable Energy

- Install solar and wind power systems, solar and tankless hot water heaters, and energy- efficient heating ventilation and air conditioning. Educate consumers about existing incentives.
- Install solar panels on carports and over parking areas.
- Use combined heat and power in appropriate applications.

Water Conservation and Efficiency

- Create water-efficient landscapes.
- Install water-efficient irrigation systems and devices, such as soil moisture-based irrigation controls.
- Use reclaimed water for landscape irrigation in new developments and on public property.

Install the infrastructure to deliver and use reclaimed water.

- Design buildings to be water-efficient. Install water-efficient fixtures and appliances.
- Use graywater. (Graywater is untreated household waste water from bathtubs, showers, bathroom wash basins, and water from clothes washing machines.) For example, install dual plumbing in all new development allowing graywater to be used for landscape irrigation.
- Restrict watering methods (e.g., prohibit systems that apply water to non-vegetated surfaces) and control runoff.
- Restrict the use of water for cleaning outdoor surfaces and vehicles.
- Implement low-impact development practices that maintain the existing hydrologic character of the site to manage storm water and protect the environment. (Retaining storm water runoff on-site can drastically reduce the need for energy-intensive imported water at the site.)
- Devise a comprehensive water conservation strategy appropriate for the project and location. The strategy may include many of the specific items listed above, plus other innovative measures that are appropriate to the specific project.
- Provide education about water conservation and available programs and incentives.¹⁶

Solid Waste Measures

- Reuse and recycle construction and demolition waste (including, but not limited to, soil, vegetation, concrete, lumber, metal, and cardboard).
- Provide interior and exterior storage areas for recyclables and green waste and adequate recycling containers located in public areas.
- Recover by-product methane to generate electricity.¹⁷
- Provide education and publicity about reducing waste and available recycling services.¹⁸

Land Use Measures

- Include mixed-use, infill, and higher density in development projects to support the reduction of vehicle trips, promote alternatives to individual vehicle travel, and promote efficient delivery of services and goods.¹⁹
- Educate the public about the benefits of well-designed, higher density development.²⁰
- Incorporate public transit into project design.
- Preserve and create open space and parks. Preserve existing trees, and plant replacement trees at a set ratio.
- Develop "brownfields" and other underused or defunct properties near existing public transportation and jobs.
- Include pedestrian and bicycle-only streets and plazas within developments. Create travel routes that ensure that destinations may be reached conveniently by public transportation, bicycling or walking.²¹

Transportation and Motor Vehicles

- Limit idling time for commercial vehicles, including delivery and construction vehicles.
- Use low or zero-emission vehicles, including construction vehicles.
- Promote ride sharing programs e.g., by designating a certain percentage of parking spaces for ride sharing vehicles, designating adequate passenger loading and unloading and waiting areas for ride sharing vehicles, and providing a web site or message board for coordinating rides.
- Create car sharing programs. Accommodations for such programs include providing parking spaces for the car share vehicles at convenient locations accessible by public transportation.²²
- Create local "light vehicle" networks, such as neighborhood electric vehicle (NEV) systems.
- Provide the necessary facilities and infrastructure to encourage the use of low or zero- emission vehicles (e.g., electric vehicle charging facilities and conveniently located alternative fueling stations).
- Increase the cost of driving and parking private vehicles by, e.g., imposing tolls and parking fees.
- Build or fund a transportation center where various public transportation modes intersect.
- Provide shuttle service to public transit.
- Provide public transit incentives such as free or low-cost monthly transit passes.
- Promote "least polluting" ways to connect people and goods to their destinations.²⁴
- Incorporate bicycle lanes and routes into street systems, new subdivisions, and large developments.
- Incorporate bicycle-friendly intersections into street design.
- For commercial projects, provide adequate bicycle parking near building entrances to promote cyclist safety, security, and convenience. For large employers, provide facilities that encourage bicycle commuting, including, e.g., locked bicycle storage or covered or indoor bicycle parking.
- Create bicycle lanes and walking paths directed to the location of schools, parks and other destination points.
- Work with the school district to restore or expand school bus services.
- Institute a telecommute work program. Provide information, training, and incentives to encourage participation
- Provide incentives for equipment purchases to allow high- quality teleconferences.
- Provide information on all options for individuals and businesses to reduce transportation-related emissions.
- Provide education and information about public transportation.

Off-Site Mitigation

If, after analyzing and requiring all reasonable and feasible on-site mitigation measures for avoiding or reducing greenhouse gas-related impacts, the lead agency determines that additional mitigation is required, the agency may consider additional off-site mitigation. The project proponent could, for example, fund off-site mitigation projects (e.g., alternative energy projects, or energy or water audits for existing projects) that will reduce carbon emissions, conduct an audit of its other existing operations and agree to retrofit, or purchase carbon "credits" from another entity that will undertake mitigation.

The topic of offsets can be complicated, and a full discussion is outside the scope of this

summary document. Issues that the lead agency should consider include:

- The location of the off-site mitigation. (If the off-site mitigation is far from the project, any additional, non-climate related benefits of the mitigation will be lost to the local community.)
- Whether the emissions reductions from off-site mitigation can be quantified and verified.
- Whether the mitigation ratio should be greater than 1:1 to reflect any uncertainty about the effectiveness of the offset.

3. Sustainability defined ...

Sustainability is defined as "development that meets the needs of the present without compromising the future generations to meet their own needs". It is about balance between environmental protections, social equity and economic performance, the three major components of sustainability, and about balance between short and longer term returns on public and private investment.

Environmental Considerations

- Meet US Green Building Council LEED-ND Certification standards for building and site design
- Account for and protect ecological systems and functions
- Incorporate a "green building" approach for future development
- Maximize pedestrian circulation modes
- Provide for alternative/renewable energy use - work toward "energy neutral" development
- Safely and efficiently accommodate traffic with out adverse impact to surrounding community
- Develop alternative public transportation modes and efficient connectivity between them
- Promote water conservation/gray water use

Social Equity

- Create active, vibrant "public places" that gather people and lend a special sense of identity to the community
- Maintain open space and provide wide range of passive and active public recreational opportunities
- Provide employment opportunities that are in synch with community
- Contribute to critically needed solutions to regional transit and transportation issues
- Recognize any regional significance and strive to ensure that it positively impacts its surrounding community (ies)
- Provide site opportunities for public art and education to contribute to public understanding of the site - history, ecology, sustainability mission

Economics

- Enhance a city's tax base and future ability to improve services within the city
- Establish a project which remains economically viable on a long term basis, including excellence in architecture that can stand the test of time
- Build in flexibility so a project can adapt to changing market conditions
- Provide jobs and other choices for residents that may not be available currently

(The above information was adapted from Brisbane, California's Baylands Plan