

# City Profile: Berkeley

A part of the study entitled: *Reducing greenhouse gas emissions through local government action: Case studies of eight California cities*

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## 1. A BRIEF INTRODUCTION TO THE CITY OF BERKELEY

### 1.1 Socio-demographics

Berkeley is a mid-sized city of just over 100,000 people in California's San Francisco Bay Area, situated between the cities of Oakland and Emeryville to the south and Albany to the north. It is worth noting that Berkeley's borders with these neighboring cities are not obvious to the casual observer; development is continuous through this portion of the East Bay, except where there are natural barriers such as water or steep hills. This fact is reflected in the city's relatively high population density of almost 10,000 people per square mile. Although Berkeley's population has been stable in the recent past, the Association of Bay Area Governments projects that Berkeley will grow at the rate of 0.5 percent per year through 2035.

As the City's own website says "Berkeley is a city with a small population and a big reputation." The city is home to the flagship campus of the University of California as well as the Lawrence Berkeley National Laboratory, and is famous for political activism and a liberal political bent.

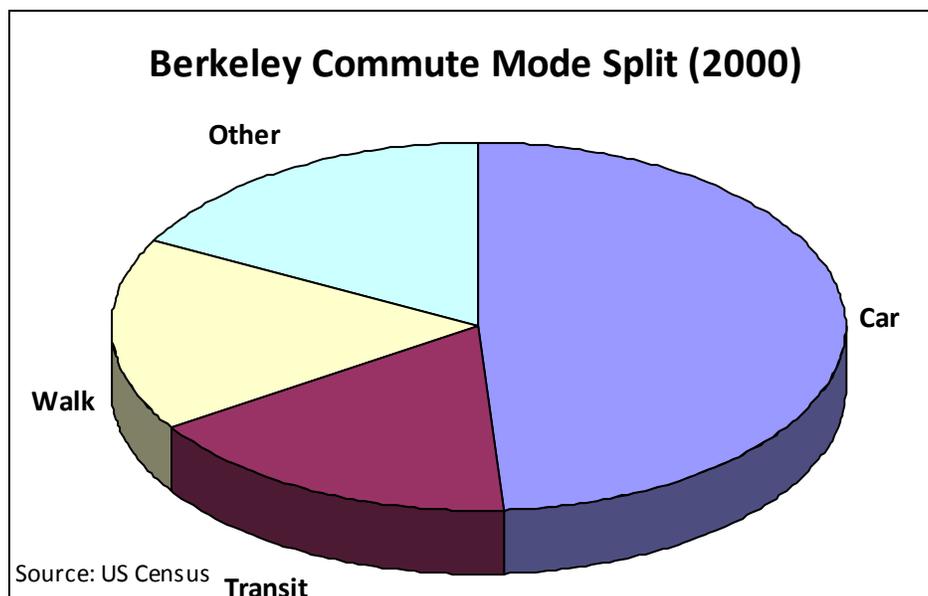


Figure 1

Housing in Berkeley is expensive; the median home value in 2000 was over \$750,000 (though this has since dropped with the mortgage crisis), and median housing rental rate was over \$1100 per month. Just under half of households own their homes, with the other half living in

rental properties. Approximately half of Berkeley households live in multifamily housing and nearly 20 percent of households do not own a car. 56 percent of Berkeley residents over 16 years of age are employed. The US Census reports that 20 percent of Berkeley residents live in poverty, but this number likely includes many university students, as almost one-third of the city's population is in this category (US Census, 2006-2008).

Berkeley is a highly educated town. Over two-thirds of the city's residents have a Bachelor's degree (US Census), and Berkeley has the third-highest rate of graduate degree attainment in California, behind Davis and Cupertino (Money Magazine 2006). The median household income in 2000 was close to \$60,000. Figures 1 and 2 show the breakdowns of commute mode choice and race in Berkeley. Approximately half of commuters use cars, but the other half use some alternative mode to arrive at their workplace (this includes working at home) (US Census, 2000 and 2006-2008).

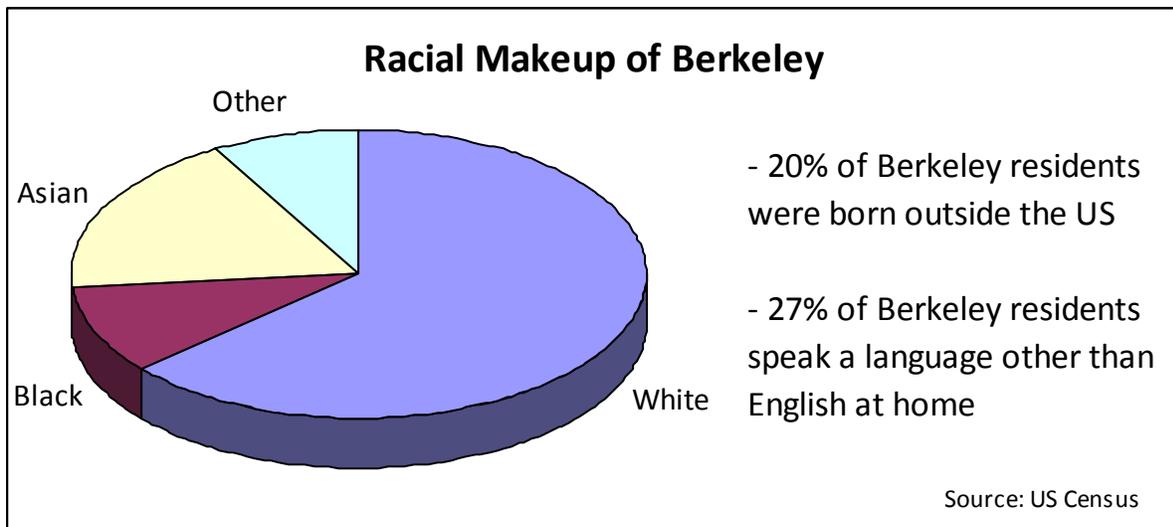


Figure 2

A significant local issue for Berkeley is its lopsided jobs-housing balance. Ideally, a city should have about as many jobs as it has workers - this balance improves the quality of life for residents by reducing commute distances and traffic, and helping to foster a sense of community. In 2005, Berkeley had just over 75 thousand jobs, but only about 55 thousand employed residents (US Census). Because not every resident of Berkeley works within the city limits, less than half of Berkeley jobs are filled by locals, meaning that a large number of people commute into and out of Berkeley every workday. According to the ABAG 2007 projections, Berkeley's jobs-housing balance is expected to improve over time - they project that Berkeley will have only 10,000 more jobs than employed residents by 2035.

### 1.2 City operations

Berkeley is governed by a directly-elected mayor and an 8-member city council. Municipal operations are divided into 12 city departments, one of which is the Department of Planning and Development. Berkeley's Office of Energy and Sustainable Development, a program within this department, coordinated the development of the city's Climate Action Plan (CAP). Staff

from several city departments participated in the CAP's development, including the Transportation and Solid Waste Management Divisions of the Department of Public Works, the Office of Economic Development and the Neighborhood Services unit from the City Manager's Office, and the Department of Health and Human Services.

Berkeley has fared comparatively well through the recent economic downturn, even succeeding in improving its bond rating. The city has also been very successful in getting grant funding to expand staff capacity as necessary, raising more than \$5 million over the past 2 years to support CAP implementation (Cook 2010). In interviews, city staff noted that the CAP has served as an effective fundraising tool, improving the city's competitiveness in grant applications. Because of the level of detail in the CAP, funders are able to see exactly what their money would be used for.

### **1.3 The residents of Berkeley**

Environmental issues are one of the top passions for many people in Berkeley, and residents are proud of their city's legacy of taking leadership on environmental issues and want to continue this tradition. There is a lot of progressive activism in general, especially around national and international issues - Berkeley City Council takes official positions on many issues that are normally within the purview of national government. Our interviewees highlighted the issues of greatest concern to residents, including education; safety and emergency services; preserving character of neighborhoods; jobs, local economy, and traffic; and climate action, environment, and sustainability.

There was general agreement that Berkeley residents understand that climate change is a critical issue and that they are passionate about taking local action to reduce greenhouse gas emissions. Residents also recognize that there are significant co-benefits to local climate action, including cost savings due to energy efficiency and improved public health due to getting people out of cars, and these seem important to the community. As a result, the political climate is overwhelmingly supportive of taking action on climate change.

However, there is a very strong anti-growth constituency in Berkeley who are against things like increasing density or allowing taller buildings to be built. There is also an overlapping constituency who opposes AC Transit's Bus Rapid Transit proposal for many of the same reasons (see Boxes 2 and 3 later in this Profile for details). This suggests that city staff will have to continue to reach out and engage the public as more policies requiring lifestyle changes are put in place to ensure public acceptance.

## **2. CLIMATE POLICY IN BERKELEY**

Berkeley is an environmentally progressive city that has a reputation for self-direction and leadership. Notable examples of environmental leadership include being the first city in the US to offer curbside recycling, first to incorporate car sharing in its municipal fleet, and first to mandate that energy- and water-saving devices be implemented for residential and commercial buildings at the time of sale or substantial renovation. The City also has the highest number of solar photovoltaic installations of any large city in Northern California on a per capita basis with

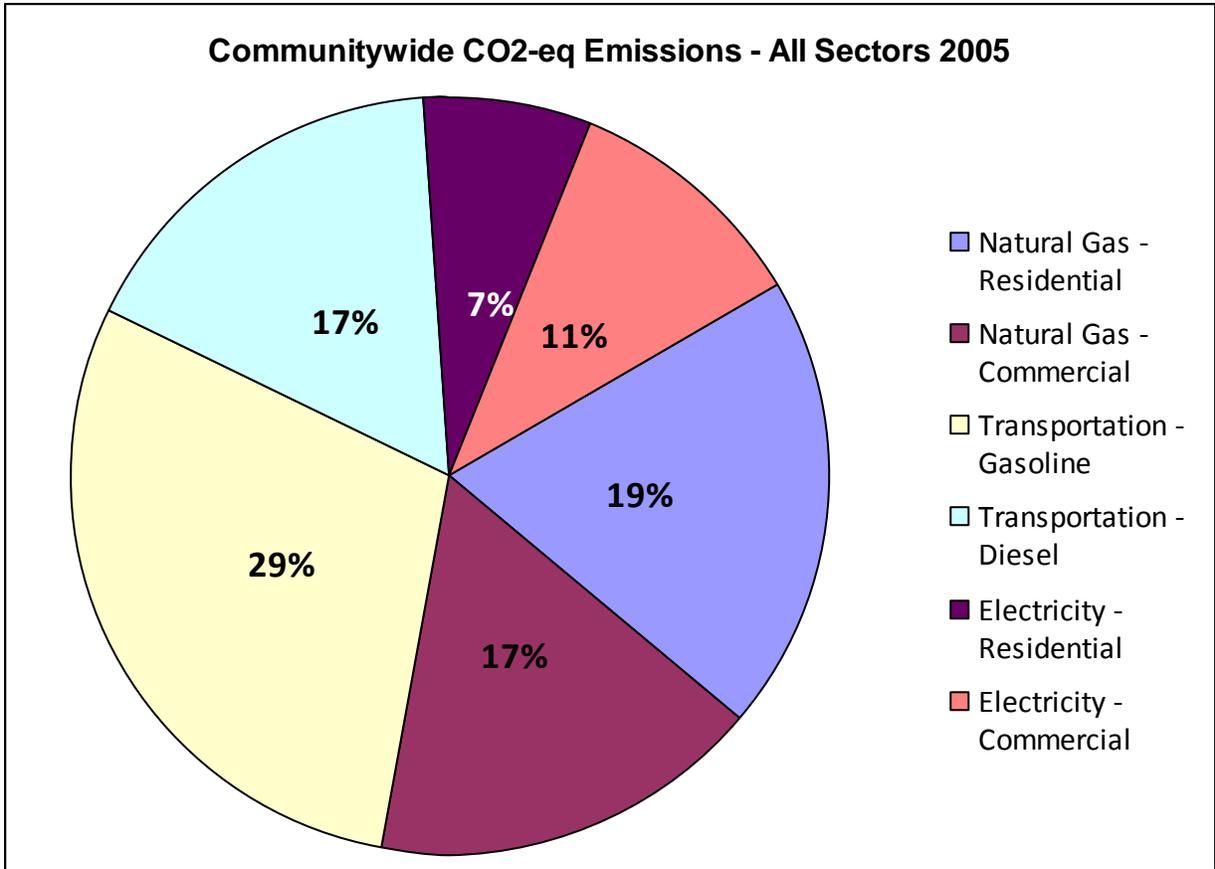
2070 DC kW either installed or approved for installation. These policy innovations reflect an engaged and informed populace, as well as a progressive elected leadership and dedicated city staff.

In the same vein, local action on climate change is a reflection of an understanding by the Berkeley populace of the significance of climate change, and a willingness to make change. Given this local support, Berkeley believes it has a unique role to play in local-level climate policymaking: to serve as a model by taking the boldest steps possible and establishing programs that can be duplicated by others. A 2009 study affirmed Berkeley's reputation as being one of California's most environmentally conscious cities, based largely on voting records on two environment-focused ballot initiatives from the year 2000 (Kahn and Vaughn 2009). Berkeley is a member of ICLEI and participant in their Cities for Climate Protection campaign as well as a signatory of the US Conference of Mayors Climate Protection Agreement.

In June 2009, Berkeley's City Council unanimously adopted an ambitious Climate Action Plan (CAP), informed by a three-year public participation and CAP development process: the Berkeley climate action campaign. Berkeley's CAP has won several awards, including the Northern California chapter of the American Planning Association's 2010 Outstanding Planning Innovation in Green Community Planning.

The City's long-term goal is Berkeley is an 80 percent reduction of community-wide greenhouse gas emissions by 2050, relative to the City's year 2000 emissions baseline. This emissions reduction goal was set in 2006 by Berkeley's voters with ballot Measure G. Measure G passed overwhelmingly with 81 percent of the vote, making Berkeley the only US city with a voter-approved greenhouse gas emissions reduction target. An intermediate goal of a 33 percent reduction of emissions by 2020 has also been set. This nearer-term target equates to an annual emissions reduction of roughly 2 percent, although the city will try to frontload its emissions reduction efforts to achieve reductions of at least 3 percent per year in 2010 and 2011. Interestingly for a city-level CAP, Berkeley's explicitly recognizes that scientific understanding of the level of emissions reduction necessary to stabilize climate continues to improve. In response, its CAP states that the city will revise and continually update its community-wide emissions reduction target.

Berkeley has already made significant progress in addressing greenhouse gas emissions: between 2000 and 2005, community-wide emissions decreased by nearly 9 percent. Largely responsible for this trend were 13.2 and 13.8 percent reductions in residential and commercial sector GHG emissions, respectively, during that period (CAP p14). This is partly thought to be the result of the 2000 California energy crisis, as consumers adopted energy efficient technology and practices to reduce energy costs. Transportation emissions decreased modestly—2.7 percent between 2000 and 2005. Not accounted for are changes in emissions from solid waste landfilled, but Berkeley experienced a 40 percent reduction in solid waste sent to landfill between 2000 and 2009, suggesting a substantial decrease in these emissions as well.



**Figure 3**

Development of Berkeley’s CAP drew inspiration from both external and internal sources. City staff closely examined the efforts of leading cities like London, Chicago, Portland, Seattle, Palo Alto, Cambridge, and San Francisco, borrowing ideas from each. The CAP also incorporated a number of previously-adopted city policies and plans, including Berkeley’s General Plan, Bicycle Master Plan, Pedestrian Master Plan, Green Building Initiative, Environmentally Preferable Purchasing Policy, and Zero Waste Goal. In addition, city staff were successful in soliciting a great deal of public engagement from the Berkeley community through their climate action campaign. This campaign was critical not only because of the ideas it elicited from the Berkeley community regarding emission reduction strategies, but also because it began the process of educating Berkeley residents on the role they would need to play to help the City meet its ambitious emissions reduction goal. Berkeley’s climate action campaign was cited as a best practice by the United Nations Institute for Training and Research.

Berkeley has greenhouse gas emissions inventories for 1990, 2000, and 2005. Its 2005 inventory was conducted by ICLEI whereas 1990 and 2000 inventories were conducted by city staff using ICLEI’s methodology and emissions analysis software. In 2005, Berkeley emitted a total of 575,889 metric tons of CO2-equivalent: 47% were from transportation, 27% were from commercial sector energy use, and 26% were from residential sector energy use (CAP p. 13). See Figure 3 for a visual breakdown.

### **3. INNOVATIVE CLIMATE-RELATED POLICIES IN BERKELEY**

As is clear from this profile already, Berkeley is extremely active in the arena of local-level climate policy. The city has been successful in externally promoting its status as an early climate policy adopter to higher-level government and other funders, and is therefore in a position to implement many of the innovative new policies laid out in its CAP. Recognizing that this funding is meant only for policy implementation startup, Berkeley's CAP sets out an implementation process that pays particular attention to the creation of sustainable funding sources to support ongoing climate action efforts. The CAP lays out specific goals for transportation, land use, building energy use and green building, renewable energy, and education/empowerment. Here, we summarize Berkeley's climate-related policies in each of these areas. For a comprehensive list and discussion of Berkeley's climate-related policies, please see Berkeley's full CAP (2009).

#### **3.1 Transport**

Almost half of Berkeley's greenhouse gas emissions come from the transport sector. Berkeley aims to reduce transportation greenhouse gas emissions 30% relative to 2000 by 2020. Berkeley's strategies for addressing these emissions include improving and promoting the use of transit, walking, bicycling, and automobile-ownership mobility alternatives like car sharing and ridesharing; managing parking; and creating incentives for low-carbon vehicles. These strategies build upon existing Berkeley plans and policies, including the General Plan, the Bicycle Plan, and the Pedestrian Plan.

**Transit:** The Berkeley CAP identifies a large number of specific actions that the city can take to improve transit service in the city through partnerships with the two major transit services that operate in Berkeley: AC Transit and BART. These include installing real-time bus arrival information at stops, improving bus stop shelters, benches, and lighting, removing certain stop signs and on-street parking to improve bus flow, and improving bicycle and pedestrian connectivity to BART stops.

Perhaps the most significant transportation action, however, is a proposal to build a new Bus Rapid Transit (BRT) line in the East Bay. The proposed BRT would run approximately 17 miles from San Leandro to Berkeley through Oakland, providing bus service that would be faster and more reliable than the existing bus lines. The project is being developed by AC Transit, and planning has been underway since the early 1990s. The BRT line is projected to draw an additional 9,000 transit boardings each day in the region by 2025 (DEIR 2007). Both the City of San Leandro and the City of Oakland have officially approved this project in their jurisdictions. As of January 2011, however, the Berkeley City Council has decided not to approve the Berkeley segment of the project in a way that is compatible with AC Transit's vision. The details of this decision are complex and controversial. See Box 2 for more information.

**Carsharing:** The City of Berkeley has actively supported carsharing since 2002 when two parking spaces were first allocated to carshare vehicles. Today there are over 100 vehicles in the city and Berkeley has an ultimate target of 500. Berkeley has introduced a number of innovations in order to promote carsharing. First, the city has partnered with City CarShare to

replace ten vehicles in its municipal fleet with carshare vehicles. Employees have access to these vehicles during the day, while any City CarShare member may use them during evenings and on weekends. This has reduced employee commuting by automobile, lowered overall fleet costs, and reduced fleet emissions since the retired vehicles are older than City CarShare's. Second, Berkeley requires developers to provide free parking spaces for a carsharing company to operate in new housing construction. They also subsidize carsharing for residents of the new Oxford Plaza affordable housing development: residents receive a 50% reduction in the cost of using City CarShare, as well as free membership.

**Parking:** Better managing parking is another strategy explicitly discussed in the Berkeley CAP, both through regulating parking space supply and through charging appropriate fees for parking in congested areas. On the supply side, new developments that are served by transit are recommended to have reduced parking requirements, and there is a proposal to set parking supply maximums (rather than minimums) in especially transit-rich areas of the city.

On the pricing side, Berkeley has begun raising its parking rates and adding meters to previously unmetered areas. In 2006 it raised rates from \$0.75/hour (which had been the parking charge since 1993) to \$1/hour. In 2007, it raised them to \$1.25/hour, and in the spring of 2010 it raised them again to \$1.50/hour.

**Bicycling:** In 2000, 5.6% of Berkeley residents commuted to work by bicycle, up from 4.9% in 1990. Berkeley is looking to expand bicycling—specifically to double its mode share to 10%—in its efforts to reduce transportation greenhouse gas emissions. The CAP highlights priority areas identified in its Bicycle Plan (adopted in 2000, updated in 2005) and makes an official goal of accelerating the implementation of measures contained therein. Specifically, the city will: continue to integrate the consideration of bicycle travel into city projects; expand bicycle infrastructure; improve safety through education, outreach, and enforcement; increase mode share through improved public awareness; and secure sufficient resources to continue to fund infrastructure and education.

A network of bicycle boulevards, established in 2003, is an innovative component of Berkeley's bicycle infrastructure. Bicycle boulevards give priority to bicyclists through signage, traffic calming elements, and other features, while still allowing other traffic to use the road. Berkeley continues to add bicycle parking and to partner with bicycle advocacy groups, transit providers, and other agencies and organizations in its efforts to promote this green mode.

### **3.2 Land use**

Complementing Berkeley's transportation strategies is a land use strategy of smart growth—namely of densification and developing a mix of uses along transit corridors. Specific goals for addressing greenhouse gas emissions through land use include increasing density along transit corridors and increasing and enhancing urban green and open space to foster walking and cycling. The most important proposal under consideration currently is the Downtown Area Plan, discussed briefly below and in more detail in Box 3.

**Berkeley's Downtown Area Plan (DAP):** The Berkeley DAP is a proposal by Mayor Bates to enhance the vibrancy of the city's downtown by adding new building stock for housing, commercial, service, and other uses. In conjunction with the BRT proposal, the DAP would help to focus future growth in Berkeley along transit corridors to relieve traffic congestion, reduce transportation greenhouse gases, and increase livability. The DAP has been in development since 2005 and would replace the current policy document guiding the development of the downtown, the 1990 Downtown Plan. While the broad goals of the DAP enjoy widespread support among Berkeley residents, some details of the Plan are controversial (most importantly the allowable building height provisions), and a final version of the Plan has yet to be approved by Council.

### **3.3 Green economy**

The City of Berkeley, in partnership with regionwide initiatives, is making the green economy a significant component of its overall development strategy. Although the motivation for this is largely to develop the local economy, green business and green workforce development policies and programs are noted as contributing to larger environmental goals such as greenhouse gas emissions reduction. Interviewees noted that this win-win aspect of green business - good for environment *and* good for local economy - overcomes a great deal of the conventional skepticism to taking environmental policy action. The programs described below include those that are particular to the City of Berkeley as well as some that are countywide or regional programs.

**Sustainable Business Working Group:** A significant event in the City of Berkeley's promotion of green business was the meeting in April 2004 of the Sustainable Business Working Group (SBWG). The SBWG was convened by Mayor Bates, with the goal to bring together local stakeholders for a brainstorming session on how to make Berkeley the "greenest city in the country" and an "environmental business powerhouse". More than 100 Berkeley stakeholders participated. Based on the recommendations of the SBWG, city staff then prepared the Berkeley Sustainable Business Action Plan, adopted unanimously by City Council in November 2004 (Friend et al. 2006). This action plan contains both goals and concrete action steps related to energy and natural resources, green building, supportive local green business climate, and environmental leadership and activism (Action Plan 2004). Recognizing that municipal government has limited resources, the model recommended by the SBWG is that of public-private partnerships to leverage capabilities. The City of Berkeley is home to more than 100 certified green businesses (CAP).

**StopWaste Business Partnership:** The StopWaste Business Partnership (SWBP) is an Alameda County-wide program that is administered by the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board. The Partnership works with local companies to reduce and prevent waste in their day-to-day operations at no cost, and then helps these companies obtain public recognition for their sustainability efforts through customized advertisements and media coverage. StopWaste Partnership Business Efficiency Awards honor top-performing businesses in Alameda County. StopWaste is also involved in promoting green building, since more than 20 percent of the material going to

landfills in Alameda County is associated with building construction and demolition (<http://www.stopwaste.org/home/index.asp?page=281>). Together with the Berkeley-based nonprofit Build It Green, StopWaste developed the “GreenPoint Rated” standard, which Build It Green now administers state-wide.

**Smart Lights and SmartSolar:** These two programs, both operated by the local nonprofit Community Energy Services Corporation, help businesses find opportunities to improve their energy efficiency and use solar energy, respectively. Smart Lights provides both information to help businesses become more energy efficient as well as large rebates for businesses to implement the recommended upgrades. The service area for both programs is larger than just the City of Berkeley, encompassing a number of other participating communities in the Bay Area.

**East Bay Green Corridor Partnership:** The cities of Berkeley, Oakland, Richmond, and Emeryville, along with leaders from UC Berkeley and Lawrence Berkeley National Laboratory joined together in 2007 to design a comprehensive program to promote the development of a green economy for the East Bay. The components of a green economy include attracting and incubating green businesses, training local workers in green-collar jobs, and developing local demand for green products and services. The main goal of the Partnership is to enable information sharing, collaboration, and policy coordination between the partner cities and institutions. A number of additional East Bay communities have since joined the Partnership. The Partnership was recently awarded \$4 million from federal funds, and is awaiting an additional \$17 million. It is serving as a model nationally.

**Green workforce development:** The City is partnering with Rising Sun Energy Center to implement the Green Energy Training Services (GETS) Program that delivers subsidized energy efficiency services to moderate-income homeowners and provides job training for youth and others with barriers to employment. The program is arranged into several tiers, with higher tiers providing more advanced training and higher performance services to households.

- Tier I: ‘California Youth Energy Services’ targets high school, community college, and trade school students; and provides basic checks of water, electricity, and natural gas consumption and free devices.
- Tier II: ‘Green Energy Training Services’ targets young adults 18-35 with barriers to employment and further develops participants’ analytical and installation skills through close working relationships with professional contractors; it provides comprehensive energy audits to residents.
- Tier III: ‘High Performance Homes’ is conducted by professional contractors; it provides more comprehensive energy efficiency measures, such as attic, wall, and floor insulation, duct sealing, and pipe wrapping.
- Tier IV, dubbed ‘Pre-Apprenticeship Trades Training’ provides postsecondary classroom and on-the-job training to participants (CAP pp. 65-66).

### **3.4 Green Building**

Buildings are responsible for 53 percent of community-wide greenhouse gas emissions according to Berkeley's 2005 greenhouse gas emissions inventory. Berkeley's CAP sets a goal of a 35 percent reduction in building energy use by 2020. The City aims to accomplish this reduction through a combination of strategies including energy use standards on new construction and energy efficiency standards on all building stock.

**RECO AND CECO:** The Residential Energy Conservation Ordinance, RECO, and the Commercial Energy Conservation Ordinance, CECO, together establish minimum energy efficiency performance for existing building stock. RECO was first adopted in 1987. It requires that every home or apartment building sold or undergoing renovations of greater than \$50,000 meet a set of energy and water efficiency requirements (or spend a certain amount of money toward meeting these requirements). Until now, RECO requirements have been prescriptive rather than customized to the particular structure. However, Berkeley is in the process of updating RECO to require an upfront energy audit, resulting in a numerical score for a building's energy performance and generating a list of steps the owner/resident can take to reduce energy use in a cost effective way.

CECO, first adopted in 1985, similarly applies to commercial properties upon sale or renovation greater than \$50,000, or additions that increase the conditioned area of the property by more than 10%. Both programs help reduce energy demand and protect residents and commercial property owners and tenants from energy price increases. Since a certain fraction of housing stock changes ownership every year, the city is thus continually and automatically capturing energy and water savings.

**Money for Energy Efficiency (ME2):** Berkeley's "Money for Energy Efficiency" program, ME2, provides financial incentives for energy efficiency improvements funded by Energy Efficiency and Conservation Block Grant funds. These incentives include free and subsidized direct services or rebates for single-family/duplex homes, as well as rebates for audits and competitive grants for efficiency improvements for multifamily and non-residential properties. Incentives are available for both tenants and owners of residential, commercial, and industrial properties to conduct audits and make improvements—these serve to help the city capture additional energy efficiency gains even when properties are not being transferred or otherwise triggering RECO or CECO. Tenant eligibility for funding is designed to help overcome the split-incentives issue prevalent in a city with such a high proportion of renters. The city has targets—either the number of homes or apartments or the amount of floor space—for each ME2 program. The ME2 program also has an informational component that connects residents with external sources of energy efficiency incentives where applicable.

**Energy efficiency programs for low income households:** Berkeley has two energy efficiency programs targeting low-income households: the City of Berkeley Weatherization Program and the Low-Income Energy Efficiency (LIEE) Program. These programs both provide free energy services including new energy efficient appliances, water heaters, attic insulation, and door and window repair and replacement. However, they differ in funding and administration. The

Weatherization Program is funded through federal grants and the City's General Fund, with additional funding from Community Development Block Grants, while LIEE is a state-wide, multi-city program funded by the State of California administered in Berkeley through PG&E's Energy Partners program.

**Green Building Initiative:** In 2001, Berkeley adopted its Green Building Initiative. The Initiative was developed with community groups and has a goal of making green building business as usual for both new construction and major remodels. The Initiative requires things like: reduction of storm water pollution, recycling of demolition waste and waste diversion, and compliance with California's Title 24 Energy Efficiency Standard. Compliance with additional environmental regulations is required for larger projects. For projects requiring either a Use or Administrative Use Permit, a free green building consultation is also required, discussed below. With the release of the City's CAP, the green building program has been strengthened: new construction is expected to meet zero net energy purchases from the grid by 2020. The city is also looking to streamline its review and permitting process, to develop financial incentives and low-cost financing tools, and to enhance outreach to developers to encourage innovative green building solutions. (Source: <http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=21150>)

**Berkeley's Best Builders Consultation:** Berkeley's Best Builders is a free green building consultation with senior staff in the Planning Department required for any project needing either a Use Permit or an Administrative Use Permit, or involving construction or demolition. This consultation takes place during the planning phase and considers project siting, design, construction, and operation. Large-scale residential and commercial projects are required to complete GreenPoint Rated or LEED checklists, respectively, although no particular level of green building performance is required. Commercial projects adding more than 10,000 square feet of new floor area are also required to complete an Energy Conservation Analysis, also available at no cost through PG&E's non-residential new construction program, Savings By Design. (Source: <http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=790>)

**Berkeley FIRST:** Berkeley Financing Initiative for Renewable and Solar Technology (Berkeley FIRST) was a year-long pilot project in 2008-2009 for an innovative financing program designed to address the upfront cost barrier of solar photovoltaic systems. The concept is that the upfront cost is borne by the public, and the loan is paid back over a long time horizon as an increase in property taxes assessed. This allows payments to automatically change responsibility if a property is transferred. FIRST is serving as a model nationwide for overcoming hurdles to investing in home energy efficiency technology and solar energy systems. FIRST is being replicated in numerous cities across the country, and the federal government has developed its own version, called Property Assessed Clean Energy (PACE) loans. The rollout of FIRST was impacted by the financial crisis of 2008, however. Instead of 5-5.5%, the interest rate on Berkeley FIRST loans ended up being 8% and an angel had to step forward to underwrite the loans. This rate was higher than what homeowners could borrow via a home equity line (3.5-4%). The Berkeley FIRST pilot period has ended, and the City is hopeful that there will be a state- or national-level program available for Berkeley residents soon.

### **3.5 Public education and outreach**

Berkeley city staff believe that their city's biggest challenge in tackling greenhouse gas emissions will be inspiring individuals to make changes in their daily lives. This belief has informed the city's actions throughout the climate action campaign, as shown by outreach efforts during the development of the CAP, just as it now has led the city to create tools to enable residents to reduce their individual emissions and stay informed of the city's progress. Highlights include: a Flash internet portal tracking the city's progress on a number of indicators towards its 2020 targets; the Berkeley Climate Action Pledge, where residents may choose to pledge to reduce their individual emissions and receive helpful ideas about how to fulfill their commitment; and the Low Carbon Diet, a thirty day program with the goal of helping participants lose 5,000 pounds of CO2 by following a detailed workbook. The city is partnering with various community organizations to implement these programs community-wide.

### **3.6 City operations**

Although most of what is emphasized in Berkeley's CAP are policies and programs to encourage community actions, it is worth noting that the City of Berkeley has led the way by "greening" its municipal operations. Berkeley was the first city to install a wind turbine on a city building (June 2007), the traffic signals at all 127 intersections in the city have been retrofitted with LED technology, all City-owned buildings have had or will soon have energy audits and the resulting recommended energy retrofits completed, and the City's vehicle fleet includes a number of electric vehicles and bicycles (City of Berkeley 2010a).

#### **BOX 1: Energy Efficiency and Conservation Block Grant Funds**

Berkeley is receiving over \$1 million in EECBG funding over three years, which it is using to provide cash incentives and rebates for home energy audits and energy efficiency improvements through the ME2 Program. The funds can be used in single-family homes and multi-family buildings, as well as in the commercial sector. Any resident may apply for financing and incentives, and the City is currently in search of additional funding to expand the program and extend its life.

## **4. FACTORS INFLUENCING CLIMATE POLICY IN BERKELEY**

### **4.1 Political leadership**

There was broad consensus that Berkeley's political leadership is strongly motivating action on climate change, and that Mayor Tom Bates has been the champion of the movement. Mayor Bates originally put Measure G to the voters and has been involved in several resident outreach and engagement efforts including selling his car and carrying out a weekly "step" to help the environment that is shared online. Bates won the United Nations Institute for Training and Research's (UNITAR) 2008 Americas Award for Excellence in Environmental Sustainability for his "efforts and outstanding work in implementing climate protection strategies." City Council, too, has been very supportive of climate action, passing the Climate Action Plan unanimously and participating in a number of town hall meetings to engage residents during the development of the CAP.

### **4.2 Institutional collaboration and coordination**

Because the city government of Berkeley does not directly control most of the city's emissions, the vast majority of climate action must be through encouraging the residents and businesses

that operate in Berkeley to take action. This is evident from the actions outlined in Section 3 of this Berkeley city profile. To this end, Berkeley is involved in a number of emissions reduction efforts at the Alameda County level (e.g. StopWaste programs of the Alameda County Waste Management Authority), the East Bay subregional level (e.g. the East Bay Green Corridor Partnership), and the Bay Area regional level (e.g. the Association of Bay Area Governments' Bay Area Green Business Program).

#### **4.3 Public participation, education, and outreach**

Berkeley is a model of a city with high levels of resident participation in local policymaking. There is a strong underlying belief in Berkeley that public input improves the implemented policies, making them more palatable to residents. This may be true, but it also may be that in some cases, large numbers of individuals voicing opinions can actually hinder policy implementation. See Boxes 2 and 3 of this Profile for climate-related examples.

Many of Berkeley's most environmentally progressive policies were suggested by community members, either groups or individuals. This being said, some interviewees noted that not all segments of the population participate equally. Specifically, lower-income members of the community often do not have the time or resources to become involved in the policymaking process. Those who do participate try to represent the point of view of lower-income households, though it is not always clear that this representation is accurate.

Berkeley city staff foster public participation by expending significant resources to engage residents in the policymaking process. Their approach is evident in the development of several Berkeley policies, including RECO and the CAP, where outreach measures such as online forums, town hall meetings, public workshops, and presentations at local community groups were employed. Residents may also participate in the municipal political process through neighborhood associations and Council-appointed citizen commissions, or by voicing their opinions directly at City Council meetings. The energy, planning, and transportation commissions are all heavily involved in the city's environmental policies.

In addition to individual participation in Berkeley policymaking, organized stakeholder groups are also active, and a number engage specifically on climate action. These include business interests such as realtors and Berkeley's downtown businesses, neighborhood associations and the Council of Neighborhood Associations; smart growth, alternative transportation, and other environmental coalitions, as well as traditional environmental interest groups like the Sierra Club and the League of Women Voters. When rolling out new initiatives, city staff solicit input directly from those stakeholder groups that they think will be most involved. For instance, in the case of Berkeley FIRST, staff held focus groups for solar photovoltaic panel installers, solar thermal installers and energy efficiency retrofit installers in addition to focus groups for residents. For the recent RECO update, city staff have directly engaged with the Berkeley Board of Realtors.

**BOX 2: BRT in Berkeley**

The major provider of bus service in Berkeley, AC Transit, has been working with the City of Berkeley and the nearby cities of Oakland and San Leandro to implement a Bus Rapid Transit (BRT) service between these cities. One of the defining features of BRT systems is that their buses run in dedicated lanes rather than in mixed vehicle traffic, effectively removing the buses from traffic congestion and leading to faster and more reliable transit service. While this is clearly a big plus for transit riders, it does take road space away from private cars and can lead to opposition from car drivers. Here, we summarize the controversy regarding BRT that has taken place in the City of Berkeley as an example of the challenges that arise from high levels of public participation in local policymaking.

In the case of the East Bay BRT proposal, the dedicated lanes would run in the center of the street to allow for both car parking (where applicable) and bicycle lanes. AC Transit completed the required Major Investment Study in 2001 and the Berkeley City Council unanimously adopted the proposed BRT alignment in July of that year (Resolution 61,170-N.S.). In this Resolution, the Council cited its 1996 Transit First Policy (Resolution 58,731), which states: "It shall be the official Policy of the City of Berkeley that alternative transportation and public transit be given preference over single occupancy vehicles on designated preferential transit streets."

In May 2007, AC Transit published the Draft Environmental Impact Statement/Report for the project. In this report, several bus transit scenarios were examined, including four dedicated lane variations and a mixed-flow scenario featuring the existing rapid bus line. An extensive public review period followed. After this review, AC Transit asked each city to develop a Locally Preferred Alternative (LPA) for their portion of the route. Informed by analysis completed by external transportation planning consultants, Berkeley city staff developed dedicated lane recommendations for Berkeley's portion, which were released in a September 2009 report (City of Berkeley 2009). After community comment, the Transportation Commission and the Planning Commission each in turn approved revisions to the LPA, which then underwent an additional period of public comment.

It was at this point that public participation kicked into high gear on this issue in Berkeley. Most of the debate centered on whether or not road space should be reserved for BRT. Much of the sentiment against dedicated bus lanes stemmed from fear of potential negative impacts to downtown businesses along the Telegraph Avenue route due to reduced automobile parking and reduced access during the construction of the project. There was also concern that the approval of the BRT project would meet the definition of "substantial upgrades" and allow for significant corridor densification without citizen input (see Box 3 for a related discussion of Berkeley's downtown area plan). Additional concerns included impacts on automobile traffic, potential impacts on transit users due to combining local and rapid service along the proposed BRT route (which would result in bus stops being spread further apart), and concern over financial viability of the system. The Rapid Bus Plus Coalition has been a leading citizen's group suggesting alternatives to dedicated lane BRT; pro-BRT citizen groups have not been organized enough to provide a countervailing public position.

After hearing multiple hours of public comment, the Berkeley City Council voted to select the city's final Locally Preferred Alternative on April 29, 2010. It chose to adopt two scenarios, neither of which include dedicated BRT lanes, and neither of which were explicitly studied by AC Transit for the project's Draft Environmental Impact Statement/Report. The fact that Berkeley's LPA was not among those studied is problematic for procedural reasons, but the fact that it does not include dedicated lanes jeopardizes the viability of the whole project. It is worth mentioning that both the Oakland and the San Leandro City Councils have selected dedicated lane scenarios from the DEIS/R as their Locally Preferred Alternatives without significant controversy—Oakland on April 20, 2010, unanimously in favor, with dedicated lanes the entire length, and San Leandro on May 17, 2010, (6 Council members in favor, 1 opposed). AC Transit voted in June 2010 to approve the final project LPA, including only the LPAs from Oakland and San Leandro (AC Transit 2010). Unless something changes, Bus Rapid Transit will not be built in Berkeley.

The level of public participation in Berkeley's CAP development process was extraordinary. Opportunities for engagement spanned the entire period of CAP development and included climate action workshops, community-led meetings hosted by NGOs and community groups, town hall meetings hosted by City Council members, public hearings at City Council meetings, presentations at neighborhood associations, and online forums. Fliers, city websites, and email lists were all used to inform residents of these events. All told, as many as 5,000 people were estimated to have participated in the process. A local activist-filmmaker even produced a documentary about the process entitled *Power Trip - Theatrically Berkeley*.

A noteworthy piece of Berkeley's outreach on climate policy is its emissions and related information website portal (City of Berkeley 2010b). The City compiles data on a large number of indicators relevant to its climate action campaign, including community-wide greenhouse gas emissions, residential and commercial energy consumption, greenhouse gas intensity of electricity, solid waste sent to landfill, street and park tree count, number of car share pods and vehicles, and farmers market attendance. Many of these have been tracked annually (or more frequently) since the early 2000s. These data, along with information about the importance of each metric and whether the city is on target for achieving its 2020 goals, are displayed through an interactive Flash portal on a City of Berkeley webpage. Having public data allows for more informed discussion of local policy priorities.

### **BOX 3: Berkeley's Downtown Area Plan**

The Berkeley Downtown Area Plan (DAP) aims to enhance the vibrancy of the city's downtown by adding new building stock for housing, commercial, service, and other uses. In conjunction with the BRT proposal, the DAP would help to focus future growth in Berkeley along transit corridors to relieve traffic congestion, reduce transportation greenhouse gases, and increase livability. Although few would argue against the stated goals of the DAP, there has been a remarkable amount of controversy over the details within it - especially allowable building heights, labor rules, and green building requirements.

The City Council appointed a 21-member Downtown Area Plan Advisory Committee (DAPAC) in 2005 to develop goals for the DAP. It submitted its final recommendations to City Council in late 2007. The Planning Commission then used DAPAC recommendations to begin developing implementation measures for the DAP in early 2008, submitting final recommendations to City Council in May 2009. City Council then considered the proposal and held two public hearings to get community input on the DAPAC and Planning Commission recommendations, eventually approving a modified version on July 14, 2009 by a vote of 7-2 (City of Berkeley 2009). In most other cities, this would be the end of the story. However, this is Berkeley - the story continues.

After the Council vote, Councilmember Arreguin (one of the two members against the DAP) led an effort to collect signatures against the DAP; approximately 9,200 signatures were collected. According to Berkeley law, then, City Council had a choice of rescinding DAP approval or paying for an election to put this issue to the voters; they chose to rescind their approval of the DAP on February 23, 2010.

To move forward from the rescission, City Council voted to place Measure R on the November ballot (City of Berkeley 2010a), asking for explicit voter approval for the most controversial characteristics of the DAP, including both building heights and green building requirements. The measure passed on November 2, 2010 with nearly two-thirds of voters in favor. The previously-approved DAP has now been modified, reducing the number of allowed tall buildings as compared to the 2009 version (City of Berkeley 2010b). After additional input from the Planning Commission and the public, City Council hopes to be able to approve a final DAP in July 2011 - 6 years after convening a committee to develop a plan and nearly 4 years after said plan was developed.

#### **4.4 State laws and other actions**

There was a consensus among our interviewees that state-level laws such as AB 32 and SB 375 and the actions of the Attorney General's office have had little effect on climate policy in Berkeley. That being said, there was a consistent recognition that state-level efforts provided a valuable source of political support and advocacy for the city's efforts, giving Berkeley license to push further and be more innovative, as well as an unprecedented opportunity for state and local governments to work together. In addition, interviewees pointed out that actions being taken to meet AB 32 at the state level would be important in enabling cities to reach their own greenhouse gas reduction targets—such as through the Renewable Portfolio Standard, the Low Carbon Fuel Standard, and greenhouse gas emission standards for vehicles. Several interviewees lauded the concept of SB 375 for its recognition that land use needs to be at least partially a regional decision to encourage coordinated climate-friendly development patterns. However, land use is the most contentious local issue in Berkeley, so there was also some concern about whether there will be the political will to carry through on SB 375 when its mandates start to trickle down to the local level.

#### **4.5 The effect of scale**

There was recognition that the relatively small size of Berkeley put it at some disadvantage in terms of effectively addressing greenhouse gas emissions. These disadvantages fall into two categories: first, large cities can more cost-effectively address emissions through monopsony power, such as in negotiating purchasing agreements for energy efficiency retrofits; second, large cities have a greater ability not to be held hostage by a small minority opinion dissenting opinion (e.g. a small fraction of residents, merchants, or stakeholders not wanting to take action to reduce greenhouse gas emissions or holding up some other public process). Berkeley has formed partnerships with neighboring communities to minimize the former challenge in implementing many energy efficiency programs. The latter challenge, however, remains a substantial barrier to climate change policy adoption and implementation in Berkeley.

#### **4.6 Budget, staff resources, and policy implementation**

Although Berkeley's climate policies are clearly ambitious, interviewees agreed that the overall economic downturn was having some effect on efforts to address greenhouse gas emissions in the City. Importantly, there was recognition that the economic challenges make it less palatable to many stakeholders to take action for environmental reasons, leading to a more conservative approach towards climate policy adoption and implementation. Parking price increases have recently provoked public backlashes in neighboring cities, for example; it's often easier to do environmentally ambitious things when the economy is strong. Yet some interviewees pointed out that the poor economy provides an opportunity for packaging environmental actions as cost saving and perhaps reaching people you wouldn't have reached during better times (e.g. landlords saving money by implementing recycling programs).

With regard to budget and staff resources for climate policy, Berkeley is in a stronger position than most other California cities. However, even in Berkeley, there was agreement that the city simply does not have the budget and staff resources to implement all of the actions and

programs laid out in the city's Climate Action Plan. Part of this is due to the expansive nature of the CAP. However, like other cities in the state, the City of Berkeley is experiencing a fiscal crisis, and currently is operating under a hiring freeze. Much of Berkeley's greenhouse gas emissions work has thus far been funded by various one-time-use pots of money, largely from external grants. The Mayor's political connections and Berkeley's high profile have contributed to the city's ability to secure this grant funding, allowing Berkeley to fund several positions over the last few years. While this grant money certainly puts Berkeley in a relatively enviable position, in better economic times these funds would augment local funding sources rather than replacing them.

In addition to the issue of grant funding being unsustainable over time, it comes with often cumbersome reporting requirements that take precious staff time. When multiple grants are being used to complete a single project, each with its own reporting rules and requirements, it can be extremely time-consuming to coordinate the timing and reporting to deliver the project. It's a tough issue to solve because loosening funding rules can lead to corruption and pet projects that may not be in the best interest of the region.

While grateful for grant funding of their climate programs, the City of Berkeley is aware of these problems and has developed a set of strategies in its CAP that "both create disincentives for practices that are energy intensive (e.g. driving) and build sustained revenue for services and programs that help the city achieve its emissions reduction goal along with other important co-benefits" (CAP p119). Some potential strategies include: redesigning the residential preferential parking program to discourage multiple vehicle ownership; creating a Transportation Services Fee to fund projects that mitigate the impact of new development on existing transportation infrastructure; creating an Open Space Fee for new development to provide more community amenities and encourage transit-oriented development; and instituting a city-wide carbon tax on electricity and natural gas consumption.

## **5. SUMMARY**

Berkeley is a mid-sized city with a highly educated, politically progressive populace, and home to both UC Berkeley - the flagship campus of the University of California system - and the Lawrence Berkeley National Laboratory. The City of Berkeley has a history of being an innovator and early adopter in the area of local-level environmental policymaking, and the current Berkeley Mayor has made sustainability a personal policy goal. The residents of Berkeley have a history of political activism and public participation in government.

Together, these characteristics have driven the city's climate-related policymaking. With the passage in 2006 of ballot Measure G, Berkeley is the only city in the nation with a voter-approved greenhouse gas emissions reduction target. The city's subsequent campaign to involve as many Berkeley residents as possible in the city's climate planning led to a broad consensus regarding their award-winning Climate Action Plan, which was officially adopted by City Council in 2009.

This being said, the high level of participation by Berkeley residents in climate policy has sometimes hampered policy adoption and implementation. Some of those who participate support climate-related policies generally, but not when the policies might affect their lifestyles. Interestingly, however, residents who present obstacles to climate policy adoption and implementation in Berkeley are often advocates of even more ambitious environmental policies.

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**References (in addition to interviews):**

City of Berkeley. 2000, 2005. *Berkeley Bicycle Plan*. 66pp plus 10pp update in 2005. Available at [www.ci.berkeley.ca.us/contentdisplay.aspx?id=6656](http://www.ci.berkeley.ca.us/contentdisplay.aspx?id=6656).

City of Berkeley. 2004. *Preliminary Report: Sustainable Business Action Plan*. September 30. 50pp.

City of Berkeley. 2009. *Berkeley Climate Action Plan*. 187pp. Available at [www.ci.berkeley.ca.us/ContentDisplay.aspx?id=19668](http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=19668).

City of Berkeley. 2010a. Municipal Energy Conservation. Office of Energy and Sustainable Development website: [www.cityofberkeley.info/ContentDisplay.aspx?id=33182](http://www.cityofberkeley.info/ContentDisplay.aspx?id=33182).

City of Berkeley. 2010b. Berkeley see-it! interactive website to view CAP goals and progress. View the website at [berkeley.visiblestrategies.com](http://berkeley.visiblestrategies.com).

City of Berkeley. 2010c. Green Building Program. Office of Energy and Sustainable Development website: [www.ci.berkeley.ca.us/ContentDisplay.aspx?id=21150](http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=21150).

City of Berkeley. 2010d. Berkeley's Best Builders Consultation. Office of Energy and Sustainable Development website: [www.ci.berkeley.ca.us/ContentDisplay.aspx?id=790](http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=790).

Cook, Caroline. August 23, 2010. City received green award for efforts to reduce greenhouse gas emissions. *Daily Cal*. Available at [www.dailycal.org](http://www.dailycal.org).

Friend, Gil, Pete Cattrell, David Johnston, Kim Master, and Kelli Pousson. 2006. *towards Sustainable Berkeley*. 54pp. Available at [209.232.44.42/sustainable/government/SustainableBerkeley\\_natlogic\\_060531.pdf](http://209.232.44.42/sustainable/government/SustainableBerkeley_natlogic_060531.pdf).

Kahn, Matthew E. and Ryan K. Vaughn. 2009. Green Market Geography: The Spatial Clustering of Hybrid Vehicles and LEED Registered Buildings. *The B.E. Journal of Economic Analysis & Policy*: 9(2) (Contributions), Article 2.

Available at [www.bepress.com/bejeap/vol9/iss2/art2](http://www.bepress.com/bejeap/vol9/iss2/art2).

Money Magazine. 2006. Best places to live 2006: Most educated.

Available at [money.cnn.com/magazines/moneymag/bplive/2006/top25s/educated.html](http://money.cnn.com/magazines/moneymag/bplive/2006/top25s/educated.html).

Alameda County StopWaste Partnership website: [www.stopwaste.org/home/index.asp?page=9](http://www.stopwaste.org/home/index.asp?page=9)

Community Energy Services Corporation website: [www.ebenergy.org](http://www.ebenergy.org)

East Bay Green Corridor Partnership website: [www.ebgreencorridor.org](http://www.ebgreencorridor.org)

Rising Sun Energy Center website: [www.risingsunenergy.org](http://www.risingsunenergy.org)

US Decennial Census 2000.

US Census American Community Survey, 2006-2008.

#### **East Bay Bus Rapid Transit references:**

AC Transit. 2007. Draft Environmental Impact Statement/Report for East Bay Bus Rapid Transit Project.

Available at [www.actransit.org/planning-focus/your-guide-to-bus-rapid-transit/brt-project-status/](http://www.actransit.org/planning-focus/your-guide-to-bus-rapid-transit/brt-project-status/)

AC Transit. June 23, 2010. GM Memo No. 10-144 (Revised) - Staff recommendation regarding final LPA to the Board of Directors. 120pp.

City of Berkeley. 1996. Transit First Policy (Resolution 58,731).

City of Berkeley. 2001. Resolution 61,170-N.S.

Available at [www.ci.berkeley.ca.us/ContentDisplay.aspx?id=55390](http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=55390).

City of Berkeley. 2009. BRT for Berkeley: A Proposal for Consideration - City of Berkeley staff proposal for a Locally Preferred Alternative for the East Bay Bus Rapid Transit Project.

September 8, 2009.

Available at [www.ci.berkeley.ca.us/ContentDisplay.aspx?id=43568](http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=43568).

#### **Downtown Area Plan references:**

City of Berkeley. 2007, 2009. DAP recommendations from the Downtown Area Plan Advisory Committee (2007) and the Planning Commission (2009).

Available at [www.ci.berkeley.ca.us/ContentDisplay.aspx?id=10828](http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=10828).

City of Berkeley. 2009. Resolution 64,581-N.S. (DAP that was originally adopted by City Council)  
Available at [www.ci.berkeley.ca.us/ContentDisplay.aspx?id=10828](http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=10828).

City of Berkeley. 2010a. Full text of Ballot Measure R.  
Available at [www.ci.berkeley.ca.us/ContentDisplay.aspx?id=57014](http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=57014).

City of Berkeley. 2010b. Next steps for Downtown Area Plan.  
Available at [www.ci.berkeley.ca.us/ContentDisplay.aspx?id=832](http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=832).

Elinson, Zusha. November 4, 2010. Smart-growth policy splits environmentalists. *The New York Times*.  
Available at [www.nytimes.com/2010/11/05/us/05bcshort.html?\\_r=3](http://www.nytimes.com/2010/11/05/us/05bcshort.html?_r=3).

Gammon, Robert. July 1, 2009. You're not an environmentalist if you're also a NIMBY. *East Bay Express*.  
Available at [www.eastbayexpress.com](http://www.eastbayexpress.com).

Weintraub, Daniel. March 20, 2010. A new Berkeley plan, but still old concerns. *The New York Times*.  
Available at [www.nytimes.com/2010/03/21/us/21sfpolitics.html](http://www.nytimes.com/2010/03/21/us/21sfpolitics.html).