

# **Report on Green Building Policies and Practices in San Mateo Cities and Towns, 2004**

Prepared for C/CAG by RecycleWorks

## Executive Summary

San Mateo County communities, like those across the Bay Area and the nation, vary significantly in their knowledge of and commitment to green building practices. Most of the communities in the county have taken some action to educate city staff and/or residents about the basic tenets of green building. More than half are using or considering green practices for public buildings, usually in the area of energy efficiency. Almost 75% of the cities are ready to learn more about green building.

That said, green building is not a high priority for any of the municipalities in San Mateo County. The cities are united in their view that green building should be voluntary, not mandated by local government – at least at this time. Some administrations are willing to proactively educate and encourage their residents to use good building practices, whereas others believe the impetus should come from citizens and the marketplace, not City Hall.

Cities that are struggling to manage reduced budgets, staffing shortages, dangerous building code violations, a slow economic recovery and ever-increasing responsibilities (NPDES, for one) see green building as a “nice-to-have” instead of a “must-have” item on their agenda. In most cities, green building is only on the radar at all if (a) a town's residents are environmentally oriented and vocal about it, or (b) someone on staff has a personal interest in the area.

After considering the environmental, financial and health benefits of green building, elected officials may want to do more to encourage green building in their cities and in their own building practices. They can accelerate the positive impact of green building in their communities by taking the following actions:

1. Request that city staff in the building, planning, engineering and maintenance functions become knowledgeable about the technical aspects of green building in their arena.
2. Identify a point of contact for green building on city staff. Green building will become ever more important in the coming years, and by naming a focal point now, you will be able to leverage opportunities across departments.
3. Continue to support public outreach efforts that teach the public about green building concepts, and encourage them to use green building for their homes and businesses.
4. Lead by example: commit to using green building practices for future public projects, and look for opportunities to help speed the market adoption of green building.

## Table of Contents

Executive Summary.....	1	General Findings from the Survey.....	7
Definitions.....	2	Barriers.....	7
Methodology.....	2	What's Being Done?.....	8
At-A-Glance.....	3	What Could Be Done?.....	12
Background and Context.....	4	Recommendations.....	14
Why Green Buildings?.....	5		

### Definitions

There is no single definition for “green building,” but they all include the same themes.<sup>1</sup> For purposes of this report, we borrow from the U.S. Green Building Council, a private/public organization whose mission is to “promote the design and construction of buildings that are environmentally responsible, profitable and healthy places to live and work.”<sup>2</sup> The five major elements of green building are: site planning, water quality and efficiency, energy efficiency and renewable energy, resource conservation and indoor air quality.<sup>3</sup>

### Methodology

RecycleWorks retained a consultant to contact each of the 20 cities and towns within the county and ascertain the current status of green building in each community. These contacts occurred during the months of October and November. In each case, the consultant called either the City Manager or, if known, the designated green building contact within each city or town, and requested a 20-30 minute meeting in the city offices. In some cases, the in-person meeting occurred; in many others, a phone conversation took place, and in two towns, no response was received despite several attempts.<sup>4</sup>

---

<sup>1</sup> From the San Mateo Countywide Guide - Sustainable Buildings, RecycleWorks publication, Feb. 2004 (hereafter, “Sustainable Buildings Guide,” attached as Exhibit A): “Green buildings means taking the environment into account during design and construction. Green buildings aim for harmony with the local environment: they benefit from it, and protect and respect it. In general, green buildings are energy efficient, water conserving, durable and nontoxic, with high-quality spaces and high recycled-content materials.” (p. 3) Similarly, in the Home Remodeling Green Building Guidelines published by the Alameda County Waste Management Authority, Jan. 2004: “Green building is just applied common sense... [it is] the convergence of three fundamental objectives: (1) Conserve natural resources (2) Increase energy efficiency (3) Improve indoor air quality.” (p. 6)

<sup>2</sup> [www.usgbc.org/AboutUs/mission\\_facts.asp](http://www.usgbc.org/AboutUs/mission_facts.asp)

<sup>3</sup> More fully, the USGBC defines green design as: “Design and construction practices that significantly reduce or eliminate the negative impact of buildings on the environment and occupants in five broad areas: (1) Sustainable site planning; (2) Safeguarding water and water efficiency; (3) Energy efficiency and renewable energy; (4) Conservation of materials and resources and (5) Indoor environmental quality.” An Introduction to the U.S. Green Building Council and the LEED Green Building Rating Systems, Powerpoint presentation, Dec. 2004, slide 4 (available on [www.usgbc.org](http://www.usgbc.org); hereafter, “USGBC presentation”). LEED stands for Leadership in Energy and Environmental Design.

<sup>4</sup> During the same time period, two volunteers for Sustainable San Mateo County, a local non-profit that publishes an annual Sustainability Indicators Report, contacted 17 San Mateo municipalities to ask whether a green building policy or ordinance is in effect. The results from these inquiries, obtained over the phone and via email, are included in this Report. The author thanks Regiane Garcia and Michelle Lee for sharing their findings, which include some input from the two towns she was unable to reach.

The goal of this research was to obtain and analyze objective, easily comparable data. Given the wide disparity of interest, knowledge and locus of responsibility for green building across the 20 cities and towns, however, it was soon clear that the available data was not directly comparable and that a more subjective approach was necessary. Fortunately, there is enough commonality and a large enough sample size to identify general trends and common barriers to action, and the variance provides an interesting array of options.

At-A-Glance:

The following table includes several factors for each community: its population; AB939 diversion rate for 2002 where available; preliminary diversion rate for 2003<sup>5</sup>; the presence or absence of a C&D ordinance, and three green building ratings, based on the jurisdiction’s interests and activities to date.

Legend for green building ratings

- education has proactively provided info to the public about green building or sponsored internal green building education
- use has used green building techniques in its public buildings
- interest has expressed interest in learning more about green building

\* the use of parentheses indicates a lesser degree of action, e.g., the city tolerates – perhaps even encourages – permittees who want to use green materials in their project, or is planning or investigating the use of green materials in public buildings.

<i>City</i>	<i>pop.</i>	<i>'02</i>	<i>'03*</i>	<i>C&amp;D</i>	<i>GB edu</i>	<i>GB use</i>	<i>GB int</i>
Atherton	7200	62	34	yes	yes	no	yes
Belmont	25000	49	48	yes	(yes)	no	no
Brisbane	3600	N/A	55	in process	yes	no	yes
Burlingame	28000	47	47	yes	yes	no	yes
Colma	1200	43	47	yes	(yes)	no	no
Daly City	103,000	32	27	no	yes	yes	no
East Palo Alto	29500	71	75	yes	yes	no	yes
Foster City	29000	39	35	yes	no	yes	yes
Half Moon Bay	12000	39	22	yes	yes	(yes)	(yes)
Hillsborough	11000	64	40	yes	yes	(yes)	yes
Millbrae	21000	64	40	yes	yes	no	yes
Menlo Park	31000	44	45	yes	yes	yes	no
Pacifica	38000	31	37	no	yes	(yes)	yes
Portola Valley	4500	N/A	64	yes	yes	(yes)	yes
Redwood City	75000	N/A	36	no	(yes)	yes	yes
San Bruno	40000	41	47	yes	yes	(yes)	yes
San Carlos	28000	42	39	yes	(yes)	(yes)	yes
San Mateo (City)	92000	48	47?	yes	yes	yes	yes

<sup>5</sup> These numbers are taken from the online database of the California Integrated Waste Management Board (“Waste Board”) at [www.ciwmb.ca.gov/Profiles/County/CoProfile2.asp?COID=41](http://www.ciwmb.ca.gov/Profiles/County/CoProfile2.asp?COID=41). All of the 2003 numbers are preliminary and subject to change during the Board review process or when a jurisdiction submits updated information.

So. San Francisco	61000	N/A	43	no	no	(yes)	no
Woodside	5300	65	64	yes	no	no	no
San Mateo County (unincorporated)	67000	N/A	47	yes	yes	yes	yes

The data reveals some interesting relationships, but no exact correlations. Factors not listed here, such as a city’s location, affluence, diversity, available space and tolerance for growth all play a role in whether or not it has shown enthusiasm for green building.

### Background and Context

The Integrated Waste Management Act of 1989, AB939, required all California communities to plan and implement programs to achieve a diversion rate of 50% by 2000.<sup>6</sup> In response, San Mateo County and its cities and towns have developed an array of activities that help residents and local businesses reduce, reuse and recycle ever-more materials and thus reduce waste disposal.<sup>7</sup>

A new analysis of California's waste stream reveals that construction and demolition debris (“C&D”) represented approximately 22% of the overall disposed waste stream in 2003.<sup>8</sup> To help local jurisdictions address and reduce this significant factor in their waste stream, and aid in meeting AB939 goals, the Waste Board developed a model C&D ordinance that could be adopted or adapted as needed for each community. It calls for demolition and construction permittees with projects of a certain size to have a Waste Management Plan, meet minimum thresholds for recycling and tender a deposit that is refunded with proof that the required percentage of materials were recycled at an approved facility.<sup>9</sup> Local jurisdictions are not required to adopt a C&D ordinance, but they may be fined if they fail to meet their Source Reduction and Recycling Element.<sup>10</sup>

Atherton was the first community in San Mateo County to adopt a C&D ordinance and most other cities, as well as the County, followed suit.<sup>11</sup> In the unincorporated areas and elsewhere, C&D recycling has proven an effective means to reduce waste disposal rates.<sup>12</sup>

However, an ordinance alone does not change behaviors. The following factors were identified as essential to a successful C&D recycling program:

<sup>6</sup> For more background on AB 939, visit the Waste Board website, [www.ciwmb.ca.gov/LGCentral](http://www.ciwmb.ca.gov/LGCentral) (local government resources). Since that time, California has embraced the concept of zero waste, with the goal of eliminating waste altogether. [www.zerowaste.ca.gov](http://www.zerowaste.ca.gov).

<sup>7</sup> Such programs include, for example, residential curbside recycling, construction and demolition recycling ordinances, household hazardous material drop-offs, collection events for shoes, bicycles, cell phones, eyeglasses, electronic materials and other items not collected at the curb, composting workshops and more.

<sup>8</sup> Contractor’s Report to the Board: Statewide Waste Characterization Study, by Cascadia Consulting Group, Dec.2004, p. 4.

<sup>9</sup> [www.ciwmb.ca.gov/Iglibrary/CandDModel](http://www.ciwmb.ca.gov/Iglibrary/CandDModel).

<sup>10</sup> [www.ciwmb.ca.gov/Iglibrary/CandDModel/ModelOrd.doc](http://www.ciwmb.ca.gov/Iglibrary/CandDModel/ModelOrd.doc).

<sup>11</sup> A list of cities with C&D ordinances is in Construction Site Recycling – A Guide for Building Contractors, RecycleWorks publication, Jan.2004 (“C&D Guide,” attached as Exhibit B).

<sup>12</sup> See the table on page 2 - the cities with the highest diversion rates all have a C&D ordinance, and many city officials credited their high diversion rates to C&D recycling, e.g. Hillsborough, San Bruno.

1. Financial incentives: All but five of the cities with C&D ordinances require a deposit from the permit applicant. Those that do not require a deposit may still levy a fine or penalty for non-compliance.<sup>13</sup>
2. Local staff support: Virtually all of the jurisdictions with C&D ordinances have assigned staff to work closely with the contractors to help them understand the need and economic value of recycling C&D debris, and the mechanics of preparing and delivering the loads to the recycling centers.
3. Easy access: When the earliest C&D ordinances were first introduced, there were no recycling facilities within the county that would take mixed C&D (a load with two or more types of materials). Once mixed-load facilities opened locally, the cost and hassle of recycling C&D dropped significantly, and contractors started following the outlined procedures more willingly.
4. Critical mass: As an increasing percentage of communities in the County and throughout the Bay Area enacted C&D ordinances, contractors became more familiar and comfortable with the requirements and adjusted their C&D practices accordingly.<sup>14</sup>

These same factors will be necessary for the effective implementation of any green building policy or ordinance adopted in the County.

### Why Green Buildings?

Where C&D recycling helps keep building materials out of landfill, green building helps actually *reduce* the amount used in the first place. By integrating all aspects of design and using alternative construction techniques, green buildings consume fewer materials than traditional ones.<sup>15</sup> Green building is thus the next logical step in the quest to cut waste disposal in each city, and offers financial and health benefits that make a commitment to the practice even more rewarding.

*Environmental Benefits.* Buildings represent a shockingly large share of resource consumption and the waste stream in America,<sup>16</sup> so any improvements in how buildings are designed and constructed will have a disproportionately positive impact on the environment. Green buildings use reclaimed and recycled materials when feasible, which yields two benefits: (1) preventing the pre-existing material from becoming waste, and (2) fueling the market for recycled materials, which is critical to making recycling economically viable. Further, green materials are both less toxic and more durable, meaning that when their useful life eventually ends and they do enter the waste stream, they pose less risk to human and environmental health than traditional materials.

Since each jurisdiction is responsible for meeting AB939 diversion goals, and also

---

<sup>13</sup> C&D Guide, pp. 2-3.

<sup>14</sup> Those familiar with the book The Tipping Point by Malcolm Gladwell (2000) may recall that a change in behavior becomes inevitable after a certain number of people in a specific community have embraced the change and altered their actions.

<sup>15</sup> For example, using Advanced Framing Techniques can reduce the amount of framing material by up to 20%, by increasing wall studs spacing to 24 inches on center from the standard 16 inch, spacing floor joists at 19.2 or 24 inches instead of 16, etc. Green Remodeling, by David Johnston (2004), p191.

<sup>16</sup> According to the USGBC, buildings consume 65.2% of total electricity in the US, cause 30% of total US greenhouse gas emissions, use 12% of potable water in the US and 40% of raw materials used globally. USGBC presentation, Environmental Impact of Buildings, slide 5.

manages the building and permitting process, there is a happy confluence of need and opportunity: cities can (and most do) require C&D recycling to reduce waste. In the same vein, cities can (though most don't) require – or at least encourage – green building.

*Financial Benefits.* Cities are expected to spend taxpayer dollars wisely. Green design calls for energy and water efficiency and overall conservation of resources.<sup>17</sup> Using fewer resources virtually guarantees spending less money, especially in an era of unpredictable and rising energy costs and frequent water scarcity. When energy, water and other operational costs are factored over the life of a building (calculated at 25-30 years in most cases), the savings offered by green building can be enormous.

Public entities have a unique advantage over private entities in this regard, as they are most often both builder and occupy public buildings such as police and fire stations, libraries and city halls. In the commercial arena, a builder-owner usually pays the upfront construction costs, but a tenant pays ongoing operating expenses like heat and lighting. Many builder-owners choose to use the cheapest materials that will do the job, which may be less energy-efficient than other options. The tenant who pays the utility bill month after month might have opted for more insulation, more natural light and better windows, if given the choice.<sup>18</sup>

Some studies indicate that owner-landlords of green buildings also enjoy lower financial risk than other landlords, because they face lower potential liability, lower building operating costs, greater occupant satisfaction, increased value and tenant retention, and greater access to capital.<sup>19</sup> If these results hold true, cities may find that having green public buildings is a far better financial investment than a traditional building. Cities can do the math for their own needs, and consider the long-term impact of their construction choices.

*Health Benefits.* Local governments are the first line of defense for health and safety issues in their jurisdictions, and most offer an extensive array of information and services to keep their residents healthy.<sup>20</sup> With the average American spending more than 90% of her time indoors, human health and well-being are dependent on the quality of the air in buildings.<sup>21</sup> The Environmental Protection Agency has identified indoor air quality as one of the top five environmental health risks today, with potentially devastating impacts on worker productivity and children's health.<sup>22</sup>

---

<sup>17</sup> See page 2, footnote 1.

<sup>18</sup> This topic is explored at length in Natural Capitalism, by Paul Hawken, Amory Lovins & L. Hunter Lovins (1991), Ch. 6, Tunneling Through the Cost Barrier, viewable online at [http://www.natcap.org/sitepages/art12.php?pageName=Book%20Excerpts%20and%20Downloadable%20Chapters&article\\_refresh=%2Fsitepages%2Fpid20.php%3FpageId%3D20](http://www.natcap.org/sitepages/art12.php?pageName=Book%20Excerpts%20and%20Downloadable%20Chapters&article_refresh=%2Fsitepages%2Fpid20.php%3FpageId%3D20).

<sup>19</sup> See articles posted at <http://mts.sustainableproducts.com/about.htm#profit> in the “Green Mortgage-Backed Securities” section.

<sup>20</sup> See, e.g. [http://www.co.sanmateo.ca.us/smc/departments/home/0,,1954\\_2139,00.html](http://www.co.sanmateo.ca.us/smc/departments/home/0,,1954_2139,00.html)

<sup>21</sup> American College of Allergy, Asthma & Immunology Nov. 2, 2000 press release, quoted at [www.usgbc.org/Resources/industry\\_statistics.asp](http://www.usgbc.org/Resources/industry_statistics.asp).

<sup>22</sup> “Building Momentum: National Trends and Prospects for High-Performance Green Buildings,” based on the April 2002 Green Building Roundtable, prepared for the US Senate Committee on Environment and Public Works by the USGBC. [www.usgbc.org/Docs/Resources/043003\\_hpgb\\_whitepaper.pdf](http://www.usgbc.org/Docs/Resources/043003_hpgb_whitepaper.pdf). See pp. 3, 5, 9-12.

Green building emphasizes using natural, non-toxic materials – ones that do not emit volatile organic compounds (VOCs), formaldehyde fumes or other known carcinogens. In its role as protector of the public health, cities can help increase the health of their residents and businesses by encouraging them to use natural materials in their construction projects. Moreover, a city might be able to improve employee productivity and reduce absenteeism by using cleaner, healthier materials in its own public buildings.<sup>23</sup>

#### General Findings from the Survey:

As noted above, each city surveyed has taken its own approach to the subject of green building. Across the group, however, certain themes are apparent:

- \* There is a widespread sentiment among the interviewees that green building should be a voluntary effort by the residential or commercial building owner, and should not be mandated by local government. The view today is that market forces should drive adoption, not government requirements. A few officials believe that regulation might be appropriate in a few years, once green building is more widely known and accepted.
- \* In each city that has taken steps to raise awareness of green building among the populace or use green materials or techniques in city buildings, a champion pushed the issue. Unless someone in city government cares about green building, little or nothing will happen – until the public demands it.
- \* Responsibility for green building is most often housed in the Community Development or Planning Department, but not always. The person who fields green building questions might also have the title of Recycling Coordinator (Millbrae), Building Inspection Manager (Redwood City), Building Official (East Palo Alto) or City Engineer (Menlo Park). A few cities had trouble identifying a green building contact and one city was unable to do so at all. This range of answers suggests that green building has not yet matured to the point of being a standard assigned area of responsibility, unlike permitting, street maintenance, building inspections, etc.

Apart from the common themes, the approaches to green building are as varied as the communities themselves. When someone in a position of authority is interested in green building, the townspeople are supportive, and no more pressing issues take precedence, “it’s as easy as it gets” to take simple actions to raise awareness of green building in the community.<sup>24</sup> In contrast, when a low-income community has suffered 20 years of neglect in the construction arena and its staff must deal with illegal structures and

---

<sup>23</sup> See, e.g., studies posted at <http://www.usgbc.org/Resources/research.asp> under the “Economic Analyses” and “Productivity” sections.

<sup>24</sup> In Portola Valley, many citizens are environmentalists and the Planning Manager and Town Administrator are supportive of green building. Last year the Town Council approved a policy to hand out the Sustainable Buildings Guide and checklist to all permit applicants and require that the checklist be completed and returned. (There is no requirement that any green building actions be taken.) The [Sustainable Building Guide](#) and checklist are also posted on the town website and were sent with a letter to all local architects, advising them of the new policy. Interview with Carol Borck, Planning Technician, Town of Portola Valley, Oct. 2004.

substandard building practices, green building right now is “a pipe dream.”<sup>25</sup>

Overall, of the 20 municipalities in the County, 17 have taken positive steps to encourage green building in their communities, in low-cost and creative ways. 12 have used or considered using green materials in their own buildings (though many have run into hurdles in their attempts). A few communities see little need to do more about green building at this time, given the very low rate of new construction or renovation in their cities.

The general sentiment is that green building is a good thing and probably should be encouraged by city governments, but the primary driver is and should be the free market. As noted by one planning official who would like to introduce LEED requirements into the zoning code, he can do so only if green materials are *cost-effective* and *readily available*. If these conditions are met, he sees no reason NOT to build green, and believes city officials and builders will agree.<sup>26</sup>

This leads, then, to the perceived barriers to the adoption of green building.

### Barriers

Financial. The general perception is that green materials and green buildings cost more than their traditional counterparts, period. The financial issues are actually more complex. The major reasons underpinning the perception are briefly outlined here.

1. Old or incomplete information: Many people who say that “green building costs more” haven't actually checked prices lately, and may never have taken a thorough look at the numbers.
2. Learning curve: Any time an architect, builder, city official or owner deviates from his or her own past experience, it takes longer to make design decisions, draw plans, specify materials, find suppliers or apply new techniques. Because tradespeople generally charge by the hour, the additional time it takes them to figure out a new way of doing things will cost more the first few times they do it. After they learn how to design, specify and build green, it will generally not take any longer to do basic tasks than it would with the traditional method.<sup>27</sup>
3. Initial vs. lifetime cost: The statewide budget crisis has increased pressure on local government coffers, causing finance departments to be even more conservative than

---

<sup>25</sup> East Palo Alto condemned 20 unsafe and illegal buildings in an 8-month period last year. The Building Department staff and management are personally interested in and supportive of green building, but their energy is spent on more pressing issues. Some private builders (e.g. Clarum) have built green houses in new developments on their own initiative. Interview with Chris Gale, Building Official, City of East Palo Alto, Nov. 2004. Elsewhere in the city infrastructure, though, the Planning Department is actively encouraging solar power for new construction, as described later in this document. Michelle Lee interview with Rebecca Shapiro, Assistant Planner of East Palo Alto.

<sup>26</sup> Interview with Tom Williams, Director of Community Development, City of San Bruno, Nov. 2004.

<sup>27</sup> The same is true when service professionals assess the risk of using a new material or technique. Until they are confident that a new approach will work as advertised, they will be wary that it might not meet the need -- or worse, may cause a problem that needs to be repaired. Interview with Jacki Yahn, architect, Dec.2004.

usual and demand quick payback for expenditures. Several city employees noted it is difficult to get approval for green materials if they have a higher upfront or installation cost than their traditional counterparts, even when it is understood that the green materials would cost less in the long run.<sup>28</sup> When many in the public sector and elsewhere believe that green building must offer an economic advantage if it is to be adopted,<sup>29</sup> much depends on the time horizon used for calculations. A 10-year cost analysis would yield very different results than a 2-year or 5-year analysis.<sup>30</sup> This situation may change over time as new data is published. A study released in July 2004 indicates that there is no statistical difference in the per square foot costs for a building seeking LEED certification when compared to a non-LEED designed building.<sup>31</sup>

4. Supply-demand: In the Bay Area residential sector, demand continues to grow for sustainably harvested wood, wheatboard cabinets and bamboo flooring, and the number of stores offering these products has expanded dramatically. Increased demand and a competitive market almost always lead to a decline in prices. In the commercial and government sectors, increased demand for rubberized asphalt (made from recycled tires) and other green materials will help create a stable market for these products and thus ensure lower costs in the future.

*Fear of Scaring Away Business*: Many San Mateo communities were hit hard by the economic downturn, and their tax revenues declined precipitously as businesses failed or moved to another region. With a highly competitive market for commercial real estate, cities cannot afford to offend any prospective builder or tenant, or provide impetus for them to lease elsewhere. As one city official put it, “if [a prospective commercial tenant] doesn't have a green building policy, we're not going to make them follow one. It would be great if we can educate them about their choices, but we aren't going to tell them what they can and can't do in their building.”<sup>32</sup>

*Competing Priorities; Need for A Champion*: Every staffer in every city has more tasks than time. For many, green building is one of a dozen or more issues for which they are responsible, and even the most zealous green building enthusiast must balance the time invested on green building with the expected benefits. If the issue of green building has not been raised by residents, the City Council or the Planning Commission, it is difficult for an interested member of staff to take independent action. Leadership and support for green building from public officials and appointees are essential if it is to succeed.

*Complexity*: While not identified as a barrier by interviewees, the multi-dimensional

---

<sup>28</sup> “Initial costs matter.” Tom Williams.

<sup>29</sup> This view was shared by Meg Monroe, Planning Director, City of Burlingame, Nov. 2004, Michael Crabtree, Director of Community Development in Pacifica, Nov. 2004, Ruben Nino, Tom Williams and others.

<sup>30</sup> Consider the case of compact fluorescent bulbs: they last 10 times longer than incandescent bulbs, save 66% of the energy used, and save \$25 over the life of the bulb. The higher initial cost is recouped several times.

<sup>31</sup> “Costing Green: A Comprehensive Cost Database and Budgeting Methodology,” by Lisa Fay Matthiessen and Peter Morris of Davis Langdon Consulting (July 2004), p. 19. The study is available online at [www.mcps.k12.md.us/departments/facilities/greenschoolsfocus/CostingGreen.pdf](http://www.mcps.k12.md.us/departments/facilities/greenschoolsfocus/CostingGreen.pdf).

<sup>32</sup> Name of source withheld by request.

nature of green building seems to complicate its adoption as well. To some interviewees, green building means solar energy; to others, it is LEED certification, or rubberized cement; or energy-efficient lighting. Green building encompasses all of those elements and more, which can be overwhelming to those who are not very familiar with the area. There is no single action or even course of action to make green building happen in a community – which makes it hard for people to know where to begin.

### What's Being Done?

Several cities have taken advantage of the resources offered by the County to increase awareness about green building in their community. These include the Sustainable Buildings Guide, brochures on specific green building features like solar water or solar heat, presentations to Planning Commissions, City Councils and staff.<sup>33</sup> The following list is based on the interviews; other cities may have taken the same or similar actions but not be listed.

<i>Action</i>	<i>Cities</i>
<i>Education and awareness</i>	
Provide access to the Sustainable Buildings Guide:	
At the permit counter	Most, but not all
On the city website	Portola Valley
Give a copy of the Sustainable Buildings Guide to:	
All permit applicants	Pacifica, Portola Valley
All local architects, advising them of new checklist requirement policy	Hillsborough, Portola Valley
Any local architect or builder requesting one, after notifying them of availability	Millbrae
Send memo on green building to all contractors with projects at Planning Commission	Millbrae
Conduct focus groups on green building with RecycleWorks	Atherton, Portola Valley
Offer a green building presentation for:	
City staff	Burlingame, Redwood City, Portola Valley, Atherton
Planning Commission or Review Board	Atherton, Belmont, Brisbane, Burlingame, East Palo Alto, Hillsborough, Menlo Park, Pacifica, Redwood City
City Council	Portola Valley
Local contractors	Pacifica
Residents	Brisbane
Sponsor public presentation series on sustainability	Brisbane
<i>Permitting power</i>	
Allow or verbally encourage resource-efficient design during planning/design review	Burlingame, Hillsborough, San Carlos, San Mateo

<sup>33</sup> A card listing several of these resources is attached as Exhibit C.

<i>Action</i>	<i>Cities</i>
Recommend reductions in paving	Burlingame, East Palo Alto (possibly others thru NPDES)
Require solar installations on residential projects (or waiver if not feasible)	East Palo Alto
Reduce solar permit fees	Portola Valley
<i>Policies</i>	
Require permittees to complete and return the Sustainable Building checklist	Portola Valley
Consider adding green building policy to zoning code or elsewhere	Brisbane, San Bruno
Adopt a Sustainable Buildings Policy requiring future public buildings > 5000 sq. ft to be LEED	San Mateo County
<i>Purchasing power</i>	
Consider energy-efficient HVAC upgrades	Foster City
Consider energy efficient pumps	Hillsborough
Consider solar for one or more public buildings	Brisbane, Belmont, Daly City, SSF
Consider requiring rubberized asphalt for projects	Hillsborough, Menlo Park
Specify flyash in concrete in road building projects	San Mateo County (in progress)
Upgrade to energy-efficient lighting in public facilities	Daly City, San Mateo County, probably others
Upgrade to energy-efficient HVAC in public buildings	Daly City, Redwood City
Use daylighting (use of natural light) in public facilities	Daly City, Foster City, Redwood City
Use solar in public facilities	Daly City, Menlo Park, San Mateo County
Use co-generation in public facilities	San Mateo County
Use passive solar siting in public facilities	Redwood City
<i>Invest in Green Design</i>	
Use integrated design and build a green public facility:	
Crime Lab (completed, LEED rating pending)	San Mateo County
Library (LEED design, under construction)	San Mateo (City)
Youth Center (LEED design, under construction)	San Mateo County
Edgewood Park Interpretive Center (design complete, in fundraising)	San Mateo County
Town Center (in design)	Portola Valley
Childcare Center (on hold)	Menlo Park
Library (attempted, bond measure failed)	Pacifica
<i>Sustainability</i>	
Hire consultant to assist in development of a Sustainable City program	Brisbane

A few of the actions taken require a significant investment of time and capital, such as committing that all future public buildings of a certain size be LEED certified. Many

others are simple to implement and will quickly save money, like the electric lighting upgrades.

### What Could Be Done?

In the course of interviews with city staff, many requested or suggested tools that would be useful in speeding adoption of green building in their cities and other ideas emerged from the research and analysis. Remembering the four critical factors that contributed to the behavioral change necessary for successful C&D recycling programs (financial incentive, local staff support, easy access and critical mass), the following list of possible actions is a guide to the actions that will enable San Mateo County to be a leader in green building adoption. They are categorized by degree of effort required:

#### No-cost, easy-to-implement actions:

- Offer the Sustainable Buildings Guide at permitting and planning counters.
- Offer other green building information at permitting and planning counters.<sup>34</sup>
- Add a link to the Sustainable Buildings Guide and related information on your city website, in conjunction with other building permit and design guidelines.
- Assign a staff member to manage public information, education, and outreach on green building.
- Send staff (building, planning, engineering, architectural, facilities and maintenance) to the trainings that are offered by the RecycleWorks Green Building Program or by the Pacific Energy Center in San Francisco. These trainings are provided free of charge.
- Encourage your staff and policy makers to register for the Green Building email list managed by RecycleWorks. It announces current, local green building educational opportunities.
- Have the planning staff identify and track good examples of a local green building in your city, and use them to help with educational efforts. Provide recognition for the homeowners and builders at a City Council meeting; ask RecycleWorks to set up an open house so that other residents can see the results first-hand; feature it on your city website.
- Schedule a presentation on green building in your city, for the City Council, planning Commission, staff, and/or the public. C/CAG will fund one presentation one per city.<sup>35</sup>
- Ask RecycleWorks to update the City Council and the Planning Commission on local and regional green building status and issues.
- Add links to green building resources, the green building section of recycleworks.org, and local green professionals and businesses to your city website.
- Subscribe to Environmental Building News and have the planning, permitting and maintenance staffs review each issue. This monthly newsletter provides an in-depth and balanced view of a single topic in each issue, and can help educate the entire staff on important issues.<sup>36</sup>

---

<sup>34</sup> RecycleWorks publishes brochures on regional green building resources, solar energy, solar water, energy-efficient windows, construction and demolition recycling, etc. SBWMA and some communities offer their own materials on some of these topics as well.

<sup>35</sup> Call Jill Boone to schedule a presentation, at 650-599-1433.

<sup>36</sup> Learn more about EBN at [www.buildinggreen.com/about/ebn.cfm](http://www.buildinggreen.com/about/ebn.cfm).

*More investment, more reward:*

- Assign a staff person to be responsible for green building for public projects.
- Contact local architects and contractors who are active in your city and urge them to discuss the Sustainable Buildings Guide and checklist with their clients and use green building techniques where feasible.
- Run a regular column on green building in the city newsletter.
- Modify your Design Review Guidelines to encourage the use of green materials and techniques (solar panels, passive solar siting, drought-tolerant landscaping, porous pavers, etc.).
- Participate in the Bay Area regional or countywide committees on green building. The Public Agency Council of Build It Green (BIGPAC) is a Bay Area-based group of local governments working to transform residential construction methods.<sup>37</sup>
- Sponsor (or encourage a local business to sponsor) a green building awareness event where green materials are showcased.
- Integrate green building training and workshops into existing or new community educational programs.<sup>38</sup>
- Focus on making progress in a specific area, such as using fly ash concrete or rubberized asphalt for city projects. Investigate what is needed to change purchasing practices or specifications to ensure that this item is used instead of traditional materials.<sup>39</sup>
- Seek out grant money earmarked for green building to help offset the expense of new public projects.

*Policy and procedural opportunities:*

- Adopt a C&D recycling ordinance if you have not yet done so.<sup>40</sup>
- Suggest green practices that building permittees could use during plan review and other formal and informal discussions.
- Be open to green materials and techniques brought to the Planning Commission or Design review, even if they are unfamiliar or different than the standard practice in your city.
- Streamline permit applications and reduce permit fees for solar.
- Adopt an Environmental Purchasing Policy for facilities and maintenance materials, lawn and garden products, furniture, windows, paint, etc.
- Offer fast-track permits for buildings that employ several green building practices (from the checklist) or are doing specific things that are important to your city.
- Integrate green building work, especially the sustainable sites practices, into your NPDES procedures and tasks.
- Develop and implement a policy that all new municipal construction will use energy-efficient, water-efficient, non-toxic materials. Better still, adopt a policy that all new public buildings will meet LEED certification.

---

<sup>37</sup>For more information, visit [www.build-green.org](http://www.build-green.org).

<sup>38</sup>East Palo Alto is considering offering a class for builder-owners. Brisbane has offered public sessions on sustainability. Green building can and should be a topic in both of these efforts.

<sup>39</sup> Sample fly ash concrete specs are available from the County.

<sup>40</sup>Examples are cited earlier in this document, or can be found on [www.recycleworks.org](http://www.recycleworks.org).

### Coordinate countywide:

- Develop and publish brochures on tankless water heaters and large homes to augment existing brochures and presentations.
- Review new studies on the financial costs and benefits of green building with financial and city management analysts and the countywide green building committee. Develop a cost-benefit analysis of green building and an educational program to address this topic with decision makers.
- Publish case studies, success stories and specific examples from other cities.
- Develop a more cohesive countywide program that would include promotion, more educational opportunities, and possible participation in the regional green building program for homes.
- Study green building ordinances in use elsewhere and develop a model ordinance – including recommendations about where and how to insert it in existing regulations – that cities can study and adopt.<sup>41</sup> Provide a roadmap for implementation in small, medium and large cities.
- Study policies adopted in other cities and, if appropriate, consider implementing them on a countywide basis (city by city). These might include:
  - A Renewable Energy Mitigation Program where new large homes or buildings are required to either install photovoltaics or pay an energy mitigation fee that funds solar for affordable housing and municipal buildings.
  - An energy policy that requires reduced energy demand for homes over a specific size.
  - Water conservation rules for landscaping.
- Develop a funding source (perhaps the Renewable Energy Mitigation Program suggested above) to support countywide efforts to promote using green building as a way to create a sustainable community.

### Recommendations

The environmental, financial and health benefits of green building are now established, and they grow more compelling by the day. With C/CAG's help, the adoption of green building techniques and materials can be accelerated in San Mateo County communities. C/CAG members can serve as role models through their joint commitment to green building and through individual actions in their own cities. Specifically, leadership is needed in three areas:

1. Strongly endorse the need for city staff and the public to be educated about the benefits of green building. Awareness is the first and most critical step.
2. Designate a green building contact in your city to coordinate across departments and take advantage of local and regional resources.
3. Exert your policy-making power by adopting a green building ordinance and invest in green public buildings. Even if no new public projects are planned, investigate the value of retrofitting existing public buildings with energy-efficient lights and HVAC

---

<sup>41</sup> For reference, the San Mateo County Sustainable Building Policy can be found at [http://www.recycleworks.org/greenbuilding/sus\\_building\\_policy.html](http://www.recycleworks.org/greenbuilding/sus_building_policy.html).

- systems, and replace old materials with reclaimed, recycled or all-natural ones.
4. Commit to moving the issue forward. Without firm and visible leadership and ongoing support from public officials, it will take several more years before market forces make green building the norm.

- Exhibit A San Mateo Countywide Guide to Sustainable Buildings  
Exhibit B Construction Site Recycling, A Guide for Building Contractors  
Exhibit C Building Design and Construction Resources (card)