



## **Staff Report**

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### REVIEW OF DRAFT RECOMMENDATIONS FROM THE GREEN ADVISORY COMMITTEE (GAC)

Honorable Mayor and Council Members:

#### **Summary/Background**

Over the course of the past year, the Green Advisory Committee (GAC) crafted a series of recommendations that seek to define, enhance (and ultimately implement) Belmont's environmental sustainability goals for the community. In October 2007, the City Council directed establishing the GAC to gather and explore ideas that would address:

- Alternative energy & low-carbon fuel use
- Climate-friendly purchasing
- Energy efficiency & conservation promotion
- Green building construction
- Sustainable land use & smart growth
- Waste reduction/recycling

On March 11, 2008, the City Council made initial appointments to the GAC. The first full group GAC meeting occurred on April 17, 2008. In July 2008 and February 2009, the composition of the GAC was amended to better streamline the group and safeguard against potential future quorum issues. The GAC has been divided into five subcommittees:

- **Building & Utilities:** Stephen Niksa, Robert Ledoux, Pierre Saint Hilaire, Steve Kelley, Adam Sevim, John Violet
- **Outreach:** Marcie Dompier, Justin Hagler, Courtney Carreras, Kelsi Perttula, Susan Wright, Bill Dickenson, Dianne Keogh
- **Sustainability/Keeping It Green:** Rick Frautschi, Kevin Sullivan, Gladwyn D'Souza, Hartley Laughead
- **Transportation:** Courtney Carreras, Christine Wozniak, Mike Swire, Kelsi Perttula
- **Waste Prevention & Recycling:** Krista Kuehnhackl, Risa Horowitz, Monica Serrato

Each subcommittee usually met informally on a monthly basis and reported back to the larger group when they had updates to share. Community Development Director Carlos de Melo, along

with Vice Mayor Christine Wozniak and Councilmember Bill Dickenson, facilitated the monthly full group GAC meetings. The GAC typically met on the fourth Wednesday of the month.

The GAC subcommittees prepared recommendations that were reviewed and discussed by the full group before forwarding to the City Council for review (and ultimately) adoption. Many of the recommendations were fully endorsed by the GAC, while a few achieved only a partial consensus. All recommendations are included in the report, and offered to the Council for consideration. A final report is expected to be forwarded to the City Council in Fall 2009.

## **Discussion**

The following provides a topic statement for the specific recommendations:

### **Building Codes**

1. Alter building codes to be in line with LEED and Build it Green standards.
2. Retrofit the current street illumination system to use low-pressure sodium lamps and high-efficiency, low-glare reflectors.
3. Contribute to County-level efforts to find solutions for the on-site treatment of gray water.

### **Outreach**

1. Determine the best methodology for changing behaviors of Belmont's various population segments.
2. Connect with existing civic groups/organizations to support and encourage their sustainability initiatives.
3. Promote Green Business certifications and practices.
4. Promote ideas for living a more environmentally friendly lifestyle to residents.
5. Educate the community about best practices for sustainable living.
6. Encourage schools to establish learning gardens and composting programs on campus.
7. Inform residents about local tree "library" option for unwanted trees.
8. Host a "car-free" community event on a designated street.

### **Sustainability/Keeping It Green**

1. Map Belmont's natural resources to gain understanding of our natural systems.
2. Use a Floor Area Transfer Policy to create complete neighborhoods with priority conservation areas.
3. Develop a Sustainable Return on Investment (SROI) model and use it to make decisions about infrastructure spending.
4. Work with San Mateo County Food Systems Alliance to encourage the use of a local food system.
5. Support residents in their efforts to grow produce locally.

### **Transportation**

1. Implement a complete bike network.
2. Implement citywide traffic calming.
3. Encourage schools to implement a Walking School Bus, safe streets program.

4. Reevaluate parking policies in order to encourage alternate transportation to businesses and City facilities.
5. Drive pathways planning based on citywide land use plans.

### **Waste Prevention & Recycling**

1. Divert organic waste from the landfill.
2. Develop a Zero Waste plan for Belmont.
3. Ban the free distribution of single-use plastic bags.
4. Implement green practices for all City events requiring a permit.
5. Adopt a Precautionary Principle Resolution/Ordinance for Belmont's purchasing.
6. Require businesses to adopt more environmentally practices through a product stewardship ordinance.

### **Water & Energy**

1. Implement a city-scale weatherization and energy efficiency program using stimulus funds as seed funding if possible.
2. Implement an aggressive water conservation program for both residential and commercial customers.
3. Encourage residents and commercial customers to hold water on site.

The Draft Recommendations document (see Attachment I) provides background, discussion, content, and objectives associated with each of the recommendations. Cost/Resource Allocation, staffing, and timeline to implementation factors continue to be evaluated and formulated by the GAC and will be presented to the City Council in a subsequent report.

Additionally, it is expected that the final adopted recommendations by the City Council will serve as a key component to a future City of Belmont *Climate Action/Environmental Sustainability Plan*. This effort will ultimately require consultant assistance to complete due to current limited staff resources.

### **General Plan/Vision Statement**

Reviewing, assessing, providing direction, and ultimately adopting Green Advisory Committee recommendations for the City of Belmont and the community furthers the City's Vision Statement as follows:

#### *Distinctive Community Character*

- *We get involved in town matters because we care about living here.*

#### *Natural Beauty*

- *Our actions today preserve and enhance Belmont's beauty to make it even lovelier for our grandchildren.*

### **Fiscal Impact**

Some of the recommendations in the report can be implemented with little or no additional resources. However, some items will require outside consultants at a cost that is not known at this time. Significant future fiscal impacts will be determined, reviewed, and confirmed by Council before expenditure of funds or allocation of staff resources.

**Public Contact**

The GAC met in a public forum. Agendas and minutes were posted on the City’s web site. Efforts were made to reach out to the public by the continuous dissemination of Committee materials. This matter was placed on the agenda and posted as required by the California Government Code. A copy of this report has been forwarded to all members of the GAC.

**Recommendation**

Staff and the Green Advisory Committee recommends Council consider this report and provide direction on the work efforts/recommendations found within.

**Alternatives**

1. Implement recommendations in part.
2. Direct review and comment of recommendations by the Belmont Commissions (Finance, Parks & Recreation, and Planning)
3. Refer back to staff for additional information.
4. Suspend the Green Advisory Committee work efforts at this time.
5. Take no action.

**Attachments**

- I. Draft Recommendations of the Green Advisory Committee

Respectfully submitted,

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Carlos de Melo  
Community Development Director

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Jack R. Crist  
City Manager

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**ATTACHMENT I**

**DRAFT GREEN ADVISORY COMMITTEE RECOMMENDATIONS**



# City of Belmont Green Advisory Committee

## Draft Recommendations June 2009

Christine Wozniak  
William Dickenson  
Courtney Carreras  
Gladwyn D'Souza  
Marcie Dompier  
Rick Frautschi  
Justin Hagler  
Risa Horowitz  
Steve Kelley  
Dianne Keogh  
Krista Kuehnhackl  
Hartley Laughead  
Robert Ledoux  
Stephen Niksa  
Kelsi Perttula  
Pierre Saint Hilaire  
Monica Serrato  
Adam Sevim  
Kevin Sullivan  
Mike Swire  
John Violet  
Susan Wright

Staff Facilitator/Liaison – Carlos de Melo

## INTRODUCTION

In October 2007, the City Council directed establishing a Green Advisory Committee (GAC) to gather and explore ideas on enhancing Belmont's environmental sustainability. The City Council wanted to receive recommendations that would address:

- Alternative energy & low-carbon fuel use
- Climate-friendly purchasing
- Energy efficiency & conservation promotion
- Green building construction
- Sustainable land use & smart growth
- Waste reduction/recycling

On March 11, 2008, the City Council made their first appointments to the GAC. An introductory full group GAC meeting occurred on April 17, 2008. In July 2008 and February 2009, the composition of the GAC was amended to better streamline the group and safeguard against potential future quorum issues. The group represented the community as follows:

- City Council (2)
- Planning Commission (1)
- Parks & Rec Commission (1)
- Finance Commission (1)
- Neighborhood Associations (2)
- Chamber of Commerce (1)
- Sustainable San Mateo County (1)
- Notre Dame De Namur University (1)
- Citizens at Large (11)

The GAC was divided into five subcommittees:

**Building Codes & Utilities:** Robert Ledoux, Pierre Saint Hilaire, Steve Kelley, Stephen Niksa, Adam Sevim, John Violet

**Outreach:** Courtney Carreras, Marcie Dompier, Justin Hagler, Dianne Keogh, Kelsi Perttula, Susan Wright

**Sustainability/Keeping It Green:** Rick Frautschi, Kevin Sullivan, Gladwyn D'Souza, Hartley Laughead

**Transportation:** Courtney Carreras, Mike Swire, Kelsi Perttula

**Waste Prevention & Recycling:** Krista Kuehnhackl, Risa Horowitz, Monica Serrato

Each subcommittee usually met informally on a monthly basis and reported back to the larger group when they had updates to share. The GAC typically met on the fourth Wednesday of the month. Community Development Director Carlos de Melo, along with Vice Mayor Christine Wozniak and Councilmember Bill Dickenson, facilitated the monthly full group GAC meetings.

The GAC subcommittees prepared recommendations that were reviewed and discussed by the full group. Many of the recommendations were agreed upon with unanimity by the GAC, while a few achieved only a partial consensus. Susan Wright synthesized and edited the recommendations into one cohesive document. All approved recommendations are included in this first draft, and offered to the Council for consideration. The GAC will refine the recommendations based on input from the June 30, 2009 City Council meeting. A final report is expected to be forwarded to the City Council in early fall.

The recommendations in this report are not a blueprint for sustainability, but rather a first step on the long path of transforming Belmont's urban infrastructure to a sustainable one. The transition necessary to completely transform Belmont will require significant investment and take many years.

## **GOALS**

While the citizens of some cities in our region have started work on a Climate Action/Environmental Sustainability Plan, the Green Advisory Committee was not asked to develop such an official plan and did not invest any time in creating one. The following pages provide practical recommendations about how Belmont can decrease carbon emissions and generally increase the sustainability of its urban infrastructure. The recommendations can be summarized by the following broad themes:

- Goals for carbon emissions reductions in line with AB32 (reduce greenhouse gases below 2005 levels 15% by 2020 and 80% by 2050)
- Recommendations to counter the effects of climate change that internationally known scientists agree will occur due to past emissions from carbon-based energy consumption and other industrial activities,
- Suggested changes in how municipal services such as water and solid waste disposal are provided to increase sustainability in the face of climate change and other threats,
- Measures to encourage the City, school districts, businesses, and residents to deploy energy conservation and renewable energy technology to reduce dependence on carbon-based energy and increase the use of renewable, non-carbon based energy,
- Suggested changes in land use and building codes to decrease the need for carbon-based transportation modes for local transport and to increase the sustainability of Belmont's building practices,
- Additional recommendations to address the heavy dependence on carbon-based personal transportation for the bulk of local transport in Belmont,
- Measures to help preserve and enhance the natural environment of the city,
- Reflections on the changes needed to embed sustainability deeply into our culture and some measures that Belmont can take to start that process,
- Communication and outreach activities to engage residents and businesses in understanding the need for reducing carbon emissions and increasing sustainability and to encourage participation in the various programs the City and other levels of government develop.

## **RECOMMENDATIONS AT A GLANCE**

### **Building Codes**

1. Alter building codes to be in line with LEED and Build it Green standards. *(page 4)*
2. Retrofit the current street illumination system to use low-pressure sodium lamps and high-efficiency, low-glare reflectors. *(page 7)*
3. Contribute to County-level efforts to find solutions for the on-site treatment of gray water. *(page 9)*

### **Outreach**

1. Determine the best methodology for changing behaviors of Belmont's various population segments. *(page 10)*
2. Connect with existing civic groups/organizations to support and encourage their sustainability initiatives. *(page 10)*
3. Promote Green Business certifications and practices. *(page 11)*
4. Promote ideas for living a more environmentally friendly lifestyle to residents. *(page 12)*
5. Educate the community about best practices for sustainable living. *(page 13)*

6. Encourage schools to establish learning gardens and composting programs on campus. *(page 14)*
7. Inform residents about local tree “library” option for unwanted trees. *(page 15)*
8. Host a “car-free” community event on a designated street. *(page 15)*

### **Sustainability/Keeping It Green**

1. Map Belmont’s natural resources to gain understanding of our natural systems. *(page 16)*
2. Use a Floor Area Transfer Policy to create complete neighborhoods with priority conservation areas. *(page 17)*
3. Develop a Sustainable Return on Investment (SROI) model and use it to make decisions about infrastructure spending. *(page 18)*
4. Work with San Mateo County Food Systems Alliance to encourage the use of a local food system. *(page 19)*
5. Support residents in their efforts to grow produce locally. *(page 20)*

### **Transportation**

1. Implement a complete bike network. *(page 21)*
2. Implement citywide traffic calming. *(page 22)*
3. Encourage schools to implement a Walking School Bus, safe streets program. *(page 24)*
4. Reevaluate parking policies in order to encourage alternate transportation to businesses and City facilities. *(page 24)*
5. Drive pathways planning based on citywide land use plans. *(page 25)*

### **Waste Prevention & Recycling**

1. Divert organic waste from the landfill. *(page 26)*
2. Develop a Zero Waste plan for Belmont. *(page 27)*
3. Ban the free distribution of single-use plastic bags. *(page 28)*
4. Implement green practices for all City events requiring a permit. *(page 29)*
5. Adopt a Precautionary Principle Resolution/Ordinance for Belmont’s purchasing. *(page 30)*
6. Require businesses to adopt more environmentally practices through a product stewardship ordinance. *(page 30)*

### **Water & Energy**

1. Implement a city-scale weatherization and energy efficiency program using stimulus funds as seed funding if possible. *(page 32)*
2. Implement an aggressive water conservation program for both residential and commercial customers *(page 33)*
3. Encourage residents and commercial customers to hold water on site. *(page 36)*

## **DETAIL ABOUT RECOMMENDATIONS**

### **Building Codes**

#### **1. Alter building codes to be in line with LEED and Build it Green standards.**

#### ***Background***

Belmont currently experiences about 150 construction projects per year that would be subject to a green building ordinance, including about six new structures. The vast majority are residential construction. About 80% of jobs cover less than 400 sq. ft, and such jobs do not require any formal design review. Most projects are directed by owner/builders, and many of these do not involve architects. Owners and designers who

develop construction plans often have a difficult time keeping up with new codes and additional building requirements. Contractors generally do not welcome additional regulations because there is a perception that they slow down the approval process and usually add cost.

All construction projects must comply with state building codes, which also constitute the bulk of Belmont's building code. There are very few reasons for Belmont's code to supersede state codes, and these would normally be climatic, geographical, or topographic (for example, roofing materials in projects that border Belmont's open wild lands must be more resistant to fire than the materials stipulated in the state code). All building professionals appreciate consistency among state, county, and city building codes. San Mateo County has been at the vanguard in promoting green construction practices, and nearly all Peninsula cities have already adopted or are considering adoption of greener building codes.

Design review by the Belmont Planning Commission is required for all projects over 400 sq. ft.; all plans must be checked for code compliance before permits are issued. Belmont employees plan check and approve plans for most projects (often after over-the-counter plan checks) and subcontract out detailed approval of plans for complex projects. Belmont employees issue, inspect, and finalize all construction permits. The Planning Commission conducts the design review with input from Community Development Department staff and other concerned departments. Belmont staff routinely expands their capabilities with additional training (for example, someone will soon need to become a Certified Accessibility Specialist to ensure compliance with the state's accessibility requirements and ADA regulations). Mark Nolfi would like the new regulations recommended by the Green Advisory Committee to be included in the city's review process.

During the past 20 years, certification organizations have been formed around the world to ensure that green construction practices can be standardized and therefore subject to formal evaluation and certification. In the US and particularly in Northern California, Build it Green (BIG) is the primary certification organization for residential construction. Leadership in Energy and Environmental Design (LEED) sets the standards for commercial construction (even though LEED has separate certification practices for residential construction).

*Build it Green (BIG)* is a construction project evaluation system intended to conserve natural resources, use energy wisely, improve indoor air quality, and make communities more livable. The system is based upon a Green Remodeling Checklist that provides a numerical score to assess how green a subject project is. The checklist contains separate sections for site, foundation, landscape, structural frame and building envelope, exterior finish, insulation, plumbing, HVAC, renewable energy, building performance, and flooring appliances and lighting. Since points are awarded under numerous categories, this system is flexible enough to accommodate a broad range of project scopes and sizes. Builders and owners also appreciate the opportunities to concentrate their efforts and funds in certain categories and neglect others, while still achieving a passing score. BIG routinely updates the checklist and distributes versions for different categories of construction projects. About 33 BIG pts are awarded for compliance with CA energy efficiency regulations. An additional 40 BIG pts would be awarded for compliance with Belmont's landscaping ordinances.

*LEED certification* is firmly established as beneficial for commercial construction, because LEED-certified projects routinely reduce their operating costs to more than recover the costs of certification. LEED certification for new commercial construction is based on a 69-point scale apportioned for sustainable sites (14 pts); water efficiency (5); energy and atmosphere (17); materials and resources (13); indoor environmental quality (15); and innovation and design process (5). LEED certification is granted in five categories: Platinum (52-69 pts); Gold (39-51); Silver (33-38); Certified (26-32); and No rating (25 or less). Direct costs for LEED certification are only several thousand dollars, but the additional costs to prepare an application run into the tens of thousands.

*San Mateo County Sustainable Green Building Standards* are resource-conserving standards. To make a clear distinction, LEEDs and BIG can be characterized as green consumption standards. Large building and energy use can qualify under these consumption standards. SGBS on the other hand focuses on smaller footprint, recycled material content, reduced water usage, proximity to transit, maximum usage of passive solar design elements, and sustainably-sourced materials where necessary to reduce resource usage and by implications impact on the planet. San Mateo County has developed an excellent guide and checklist to aide in using the SGBS for green buildings. [http://www.recycleworks.org/greenbuilding/gbg\\_intro.html](http://www.recycleworks.org/greenbuilding/gbg_intro.html)

Comparison with other peninsula cities:

- San Mateo County voluntarily recommends 50 pts under BIG guidelines or LEED for Homes certification.
- *For residential projects*, Hillsborough, Portola Valley, and San Mateo require 70 – 75 BIG pts and Brisbane and Redwood City require 50 pts; San Carlos only requires compliance with CA codes.
- *For sizeable commercial projects*, Brisbane, Portola Valley, and San Mateo require LEED Silver certification, and Redwood City requires LEED Certified approval. Hillsborough, San Mateo, and San Mateo County only accept certification scores from the certification agencies (BIG and LEED).
- Portola Valley uses an employee certified by the primary agencies. Brisbane and Redwood City rely on normal city staff.

Additional information:

The San Mateo County Green Building Task Force is interested in looking at deconstruction versus demolition. One idea is to release a demolition permit only when the home building permit is issued, but issue a deconstruction permit when it's requested (which can be viewed as a negative six month penalty). The task force asked the County to address setting tipping fees at the dumps at \$150/ton and intends to talk to Peter Wall about incentives that architects would like to see in deconstruction.

### ***Objectives***

- Promote additional certification procedures to ensure that sustainable, energy efficient, and environmentally responsible building practices become the norm for all construction projects in Belmont.
- Ensure that the certification procedures are entirely consistent with formal certification by the primary certification agencies.
- Ultimately require formal certification from the primary certification agencies for all construction projects.

- Introduce the new certification procedures in ways that are compatible with longer learning curves for owner/builders, and respectful of the heavy time demands on contractors.
- Incentivize new procedures with rewards that minimize additional costs and delays for construction professionals whenever possible.
- Impose certification procedures that add supplemental value to all construction projects.

### *Specific recommendations*

- For residential projects, require 70 BIG pts for those over 400 sq. ft. Require certification for all residential projects under 400 ft<sup>2</sup> based on a BIG point tally specified by city staff after an informal review by city staff.
- For all large commercial projects, require LEED Silver certification.
- All new certification requirements are voluntary for two years after introduction. They become mandatory two years after introduction.
- Certification scores can only be assigned by plan checkers and inspectors who have been formally certified for this work by the primary certification agencies. Formal certification should be required on all Belmont construction projects two years after this policy is implemented.
- Prepare and distribute contact information for online and in-person resources for green building practices at a builder's first inquiry for construction permits.
- Guarantee 10-day plan turnaround (vs. typical 14-day) and next-day inspections (vs. 48 hr) on all certified projects from the outset.
- For residential projects, issue BIG certification checklists that show automatic compliance with all California code items and with all city-landscaping ordinances.
- Promote voluntary compliance with San Mateo County Sustainable Green Building Standards.
- Adopt a more structured Construction & Demolition Ordinance.
- Recommend SGBS to consumers of new or remodeled structures.
- Score SGBS designed structures with a LEEDs or BIG score sheet.
- Develop a sample guideline of what a structure could score if SGBS were used.

## **2. Retrofit the current street illumination system to use low-pressure sodium lamps and high efficiency, low glare reflectors.**

### *Background*

Outdoor residential and commercial illumination has been given relatively less attention from a technological or planning perspective. Illumination represents a significant proportion of the total energy use both in Belmont and the United States. Regulation on residential, public, and commercial illumination falls mostly under the authority of the City of Belmont. Federal and state level legislation on the subject is in the works but will take a few more years.

Factors that have delayed the adoption of more efficient and safer outdoor illumination technologies include:

- Low cost of electricity – Traditional generation technology requires a minimum base electrical load (for example coal or nuclear energy plants need to always run at their nominal power).

- The misperception that there is a correlation between outdoor illumination levels and crime rate. A number of studies have invalidated this urban myth but it is still prevalent.
- The lack of a standard metric for outdoor illumination measurements due to the very complex nature of the problem (color, uniformity, angular distribution, etc.)
- Efficiency has been traditionally low on the list of criteria for outdoor illumination.
- A lack of consistent state and federal laws on outdoor illumination.
- A lack of studies on the effects of outdoor illumination on wildlife (and humans).

There's a renewed interest in outdoor illumination, however. From the positive perspective, newer technology for generating and distributing (i.e. solar, smart grid) of electricity allows for the possibility of painlessly reducing carbon usage. New illumination technology is also available. From the negative perspective, links between the disruption of wildlife and light trespass have been demonstrated. Disruption of diurnal cycle has been associated with health problems. Carbon caps and carbon trading markets will likely result in an increase in electricity rates for off-peak hours. The increased use of plug-in hybrids and electric vehicles may cause regulation of night load.

New standards and new local draft model ordinances are being developed. For residential and commercial outdoor illumination the LEED and BIG guidelines are adequate. Although the Municipal Lighting Ordinance (D-MLO) is still at the advanced draft stage, it already includes all the necessary metrics and definitions, and is compatible with both LEED and BIG. That document, which was over 10 years in the making, comes from the concerted effort of astronomers, lighting manufacturers, conservation advocates and utilities. This is one area where local legislation can make a very large contribution, since municipalities regulate outdoor illumination. Future state and federal legislation on the issue will probably take a few more years, and is likely to be consistent with the MLO.

Low-pressure sodium lamps and high efficiency, low glare reflectors, certified by illumination standards committees, are now commercially available. Low-pressure sodium lamps are 30% more efficient than high-pressure ones, and all of the outdoor street lamps surveyed in Belmont were of an outdated 1970s "cobra" design, which is known to be very inefficient and create glare. At least 50% of the electricity devoted to outdoor spaces can be saved by this measure. The most common objection is that the more yellow light of low-pressure sodium is less pleasant, but a few informal interviews with localities that have adopted such illumination uncovered no complaints. Among other Peninsula cities, Palo Alto, Menlo Park, some parts of Redwood City and most of San Jose have been converted to low-light trespass (light at unwanted places) and low-pressure illumination, with no complaints or evidence of increased crime.

Most of the anticipated costs of retrofitting Belmont streetlights seem to be associated with human labor, and an exact cost benefit analysis falls outside of the scope of this report. The modernization of streetlights and outdoor illumination is a very good candidate for federal stimulus money, so there might be a window of opportunity for the City to ask for some federal funds.

### *Specific recommendations*

- Adopt legislation modeled after the draft Municipal Lighting Ordinance (D-MLO) available at <http://www.darksky.org/mc/page.do?sitePageId=84399>
- Do an analysis of the amount of electricity used for public outdoor illumination.

- Retrofit the outdoor sports complex with more efficient ballasts and lights; look at perhaps lower wattage and/or some use of high-pressure sodium lamps.
- Draw up a plan to completely retrofit the current street illumination system to use low-pressure sodium lamps and high efficiency, low-glare reflectors. Pursue federal stimulus funds to support the project.
- Educate the community about the issues of light trespass and efficient outdoor illumination.

### **3. Contribute to County-level efforts to find solutions for the on-site treatment of gray water.**

#### ***Background***

Gray water is water that has been captured from the shower, the tub, the bathroom sink or the laundry—not the toilet. Those facilities account for more than half the water used inside the home. Toilet flushes account for about 30% of most indoor water use.

Water drained from showers, tubs and sinks carries bacteria, however, along with the dangers of the transmission of diseases. Kitchen sinks also pose a threat from food processing, and cloth diapers in the laundry can transmit fecal matter. In order to eliminate the health threats, approved in-home sewage-treatment systems would be needed. The treated, recycled water is called “purple water” in reference to the color-coded pipes that transport this water. For comparison, water treatment facilities purify their wastewater to “purple” water standards.

At present, it would be impractical to convert a home’s existing water system into a sewage treatment system. The real market would be for developers building new structures.

California has required the Department of Housing to update the plumbing code CPC Chapter 16 for gray water and a draft is expected around 2010. Much larger issues need to be addressed such as treatment and bypass pumps for water and sewage.

Using reclaimed water for non-potable use saves potable water for drinking, since less potable water is used for non-potable uses. If gray water is used for irrigation, it stays on site, percolating into the soil, and recharging the ground water. Rainwater harvesting, primarily gutter supplied, also needs to be addressed in order to reduce storm water run-off, which leaks into the sewer system. This is common in hillside communities like Belmont.

Discussions with City staff indicate that the issue of gray water is still a matter of debate because of the complexity of the issue. The City should stay informed and actively contribute to the current efforts at the County level aimed at simplifying the issue. As soon as there is consensus, Belmont should move to enable residents and commercial builders to install gray water treatment systems on-site.

For more information contact Dean Peterson the County Environmental Health Officer. [http://www.ajc.com/metro/content/metro/stories/2007/12/18/graywater\\_1218.html](http://www.ajc.com/metro/content/metro/stories/2007/12/18/graywater_1218.html)

#### ***Objectives***

Reduce Belmont’s external water needs by safely and effectively reusing gray water.

### *Specific recommendations*

- A. Network with staff from other cities to stay aware of best practices and changes in the law.
- B. Change ordinances to allow reuse of gray water once guidelines are established.

## **Outreach**

### **1. Determine the best methodology for changing behaviors of Belmont's various population segments.**

#### ***Background***

The challenge of changing our behavior to stop damaging the climate can seem daunting. Behavior change is difficult; people are complicated and don't always react as we'd expect.

There is a huge body of international psychological, sociological, and marketing studies analyzing what will move people forward from the status quo. Belmont should evaluate the findings, and figure out how to apply them to Belmont's residents. For instance, what are the different segments within our population? Is there a "one-size-fits-all" message that will work for everyone, or do we need to tailor it based on demographic and psychographic segments?

Source to explore: Futerra Sustainability Communications: "New Game, New Rules" report. <http://www.futerra.co.uk/downloads/NewRules:NewGame.pdf>

#### ***Objectives***

Get the majority of residents involved in taking incremental steps toward a more environmentally friendly lifestyle.

Develop closer neighborhood communities. People feel anonymous in their cars, but when they begin to know each other personally, they start to take more responsible actions collectively.

### ***Specific recommendations***

- A. Identify the psychology behind the behavior change
- B. Evaluate how best to reach community members.
- C. Implement a strategy of education to facilitate behavior changes.
- D. Talk to other cities to see what has been effective for them.

### **2. Connect with existing civic groups/organizations to support and encourage their sustainability initiatives.**

#### ***Background***

More and more Belmont groups are looking to see what they can do to promote environmentally friendly living. The City should develop a method for connecting with existing groups to share best practices, generate new ideas, and support each other's efforts. This will expand the impact of each organization's work exponentially.

Belmont should formalize a connection with as many groups and organizations within the City as possible with the goal of sharing with them what the City is doing around sustainability, and supporting their efforts to do similar work. For instance, at each quarterly meeting of the Neighborhood Association Presidents, sustainability should be

discussed. Each association could be asked to designate a liaison to attend future City sustainability meetings and to set up a “green team” within the neighborhood. The same should be done with School Force, San Carlos/Belmont Mothers Club, faith groups, PTAs, sports leagues, and other organizations. Belmont should also develop a relationship with the Chamber of Commerce and the Senior Center to support and encourage their sustainability efforts. The City should host an annual appreciation dinner and give out awards for the year’s biggest achievements in the area of sustainability.

Belmont’s commissions should be informed about the sustainability policies and priorities and be requested to keep their findings in line with them.

### ***Objectives***

Multiply the effect of the City’s sustainability policies, procedures, and programs, by tapping in to existing networks within the City.

### ***Specific recommendations***

- A. Let all Belmont groups/organizations know that the City would like to support and encourage their sustainability efforts. Ask to be invited to a group meeting to explain the desired relationship. Ask for the group to appoint a liaison.
- B. Ask each group/organization to establish sustainability goals.
- C. Stay in touch with all groups/organizations, letting them know about City progress, and asking them about their progress.
- D. Host regular sustainability progress meetings for categories of groups (all faith groups, for instance).
- E. Host an annual appreciation and awards dinner.

## **3. Promote Green Business certifications and practices.**

### ***Background***

Businesses contribute substantially to the use of resources and production of greenhouse gas (GHG) emissions within our community. In addition, consumers are increasingly making the connection between business activities and the quality of life in a community. More and more people are basing purchasing decisions upon their concern for the health of their community and the planet. In fact, 8 out of 10 consumers believe that it is important to buy from “green companies.” It is projected that consumer spending on green products and services will double in the *next year* alone, totaling an estimated \$500 billion annually. With this increasing focus by consumers on supporting green businesses it is important for the City to support green business proposals that ultimately bring more business, and therefore more revenue, into the community, while supporting the efforts to reduce GHG emissions. Since small businesses are often strapped for resources and don’t have the bandwidth to think about how they can do business in a more sustainable way, Belmont should do everything possible to facilitate and reward their green efforts.

Belmont should be a leader in the green revolution. It is critical, therefore, that local businesses are encouraged to become leading participants in the effort to “green” Belmont—for their benefit, as well as the benefit of the entire community.

### ***Objectives***

To include businesses as vital community partners in our efforts to go green.

Goal: 90% of Belmont businesses receive Green Business certification by 2012.

### *Specific recommendations*

- A. Support and assist the current San Mateo County Green Business certification program by providing outreach and encouragement to local businesses.
- B. Promote businesses that get Green Business certification. Develop a Belmont “seal of approval” and include a special designation on the Chamber of Commerce map. Write an article in the quarterly community newsletter about mom & pop businesses that go green.
- C. Partner with organizations that support small businesses in greening their operations (Wave One in Palo Alto, for instance).
- D. Educate businesses about green alternatives. For instance, make sure grocery stores educate their baggers to reduce the use of bags, and restaurants use compostable utensils and packaging.

#### **4. Promote ideas for living a more environmentally friendly lifestyle to residents.**

### *Background*

The more information that is available about environmentally friendly choices, the easier it will be for Belmont residents to make changes that will improve our environment and the health of our planet.

Belmont’s website already has some good information and links on it. It is not user friendly, however, so the information is difficult to access. It should be reorganized and redesigned to be comprehensive, graphically interesting, and constantly refreshed, showcasing Belmont’s ongoing sustainability efforts as well as providing information and resources to assist and inform the community about their Carbon Footprint and other relevant sustainability issues. The site’s information should include:

- Community resources
- Recycling waste management options
- Proper way to dispose of old medicines. (Take them to recycling sites rather than flushing them down the toilet or putting them in the trash.)
- Recyclable material processing and eco-conscious purchasing
- Freecycle and reuse networks
- Connection to GoGoVerde (Green social networking site that supports residents in sharing resources, equipment, and advice, and offering and request information and expertise)
- Links to information provided by residents (The City could invite residents to create their own YouTube videos in which they share their best ideas for sustainability. Prizes could be given for the best and most entertaining videos.)

Belmont’s Sunday Farmers Market is already a place where the community gathers in support of local food growers. Since this is already a receptive audience, the City should regularly provide information about eco-friendly living at a table there. The City should also have a presence at all City-sponsored events.

The Belmont library is a vital community center. The City should assist and encourage the Library to create and dedicate a specific, visible area of display and shelving to Environmental concerns. This should be in the form of a permanent display or kiosk, supported by readily available reference materials, and a prominent rotating display, possibly based on a monthly subject of focus within the sustainability realm. We would also propose a special display in the children’s zone, including special programs and

lectures, programs, contests and/or other activities aimed at raising environmental awareness. This has been achieved in many libraries. For example, in San Francisco Public Library there is a whole section including movies, magazines, books and special exhibits related to climate change and environmental stewardship.

Residents and other travelers who drive on our roads need to remain aware of the need to share the road with those using alternate means of transportation. We suggest installing additional “Share the Road” signs, as well as painting more bike lanes in key areas along residential streets in addition to the major thoroughfares.

### ***Objectives***

- Make messaging about environmentally friendly lifestyle choices prominent around the City.
- Make resources and information readily available.

### ***Specific recommendations***

- A. Improve and enhance Belmont.gov as a source for information about environmentally friendly living in our local area.
- B. Have a regular presence at the Farmers Market and all City-sponsored events to distribute information about Belmont’s green programs and policies.
- C. Partner with the Library to educate patrons about environmentally friendly living.
- D. Install signage around the city that supports walk- and bikeability (“Share the Road”).

## **5. Educate the community about best practices for sustainable living.**

### ***Background***

To enable the complete turn-around that our city needs to reach its environmental sustainability goals, it will be necessary to engage the public in every way possible.

Although there’s a near-infinite amount of information on the web about sustainable living practices, when a person is navigating new topics (such as planting an organic vegetable garden or considering purchasing home solar), it’s invaluable to have access to an expert. In-person talks and workshops provide the opportunity for participants to ask questions and get firsthand advice. A monthly speaker series could have range of options, from philosophical to practical. For instance, one session could engage residents in a discussion about California’s sustainability policies, while another could explain composting with a hands-on demonstration. Topics should be chosen with input from residents, both from in-person conversations at City events, as well as through online surveys. The speaker series could be sponsored by the Belmont Library or NDNU. More in-depth classes/workshops could be developed and sponsored by the Parks & Rec department.

Belmont should develop a brochure that explains all the benefits and procedures for building or remodeling green. This information should be handed to the resident on the very first inquiry at the Planning department. The brochure should be friendly and encouraging and talk in layman’s terms (rather than use contractor-speak). In addition, this information should be easy to find online at Belmont.gov.

The City should promote environmentally friendly living on PenTV Channel 27. Public service announcements can teach people to reduce, reuse, recycle, and rethink. Belmont could invite the public to create their own presentations and/or videos. The best ones would be aired on Channel 27 and awarded prizes.

Belmont can support residents in biking and walking its roads and trails by providing a detailed, accurate map of the City. It should show bike lanes and the grades of all roads. San Francisco has a map like this.

Belmont should publish a monthly email newsletter detailing the City's efforts in going green as well as highlighting the efforts of groups, organizations, businesses, and families within the community. In addition, this information should be published in the quarterly printed newsletter and Parks & Rec Activity Guide.

### ***Objectives***

Provide Belmont residents with ideas and information in a variety of formats that will help them make lifestyle choices that improve, not degrade, the health of the planet.

### ***Specific recommendations***

- A. Sponsor a monthly speaker series and workshops/classes on sustainability topics.
- B. Put videos and/or short presentations on PenTV Channel 27.
- C. Send out a monthly email newsletter.
- D. Publish a bike/walk map of Belmont.
- E. Produce a green remodeling/building brochure to be distributed by the Planning department.

## **6. Encourage schools to establish learning gardens and composting programs on campus.**

### ***Background***

School gardens are ideal vehicles for teaching across the curriculum, enlivening learning, and helping young people develop lifelong social skills. They help teachers educate children about ecology, nutrition, and healthy food and simultaneously engage students in hands-on learning experiences in creating edible gardens, growing food, preparing and eating meals, and composting and recycling.

Students work together to shape and plant beds, amend soil, turn compost, and harvest flowers, fruits, and vegetables. In the kitchen classroom, they prepare and eat delicious seasonal dishes from produce they have grown in the garden. A learning garden provides a way to transform the lives of students and teachers and the environment of their community.

Central Elementary in Belmont is planning to implement a composting program in the 2009-10 school year. A green committee, composed of parent volunteers, was formed at the school last year and working with Central's Principal and waste disposal company. They developed a plan to start separating compostable materials so they can be composted off campus. The group visited Arundel Elementary in San Carlos to view and discuss their composting program, a trip that proved valuable and educational. Central's program could possibly be expanded to include composting and gardens on site. Working with school administration, the PTA and community volunteers, students would have the opportunity to learn about growing their own food, healthy nutrition and green

methods of waste disposal as well as the benefits of purchasing and consuming locally grown produce. Belmont should support the schools' effort in whatever ways they can.

Other local programs:

- Collective Roots program in East Palo Alto for at-risk youth
- Highlands Elementary School has a school garden.
- Notre Dame De Namur has also started a small garden.
- Other programs exist in Santa Cruz, which can be found through the UC Santa Cruz Center for Agroecology and Sustainable Food Systems  
<http://74.125.155.132/search?q=cache:kP2hM8nMNjEJ:casfs.ucsc.edu/+casfs+ucsc&cd=1&hl=en&ct=clnk&gl=us>

### ***Objectives***

Create a hands-on educational opportunity for students while improving waste disposal methods and producing locally grown produce.

### ***Specific recommendations***

- A. Meet with local or district –wide administrators (including those at private schools) to discuss the idea.
- B. Recruit volunteers (parent or community) to implement and oversee plan.
- C. Encourage implementation at local schools.

## **7. Inform residents about local tree “library” option for unwanted trees.**

### ***Background***

When a house is being remodeled or built, trees sometimes need to be removed to make room for the new structure. Belmont's tree ordinance already requires the replacement of large trees that had to be removed. Another option for the homeowner is having the tree dug out and added to a local tree “library.” With this salvage/recycling program, the tree is saved, and can be purchased by another resident for use in their yard.

Belmont could promote this service to residents when they're getting a tree removal permit. Tree Movers, a specimen tree nursery in Mountain View, can dig up trees and bring them back to their location or move them to a different spot on the homeowner's property for a fee. Anyone can purchase trees—many of them very large—at Tree Movers's facility. Belmont should ascertain if other similar companies provide this service in the area, as well. <http://www.treemovers.com/>

### ***Objectives***

Save healthy trees from being destroyed by transferring them to another location.

### ***Specific recommendations***

- A. When a construction or tree removal permit is requested, promote the option of moving trees instead of cutting them down.
- B. Explore the idea of requiring tree moving rather than making it optional.

## **8. Host a “car-free” community event on a designated street.**

### ***Background***

Belmont is a small town with an active population. Hosting a car-free event would be a wonderful opportunity to encourage residence to use the streets for alternative methods of

transportation, increase communication between neighbors; highlight walking paths; provide maps with mileages for people who may want to walk to short errands for exercise, and educate people on green practices. The event is an opportunity to build community, educate, and introduce the practice of walking or biking to shops, etc. This type of event has taken place in other communities with great success. It involves blocking off a street for a festival-type of event. Sixth Street has been suggested.

### ***Objectives***

Create a community event to enable residents to meet their neighbors and collaborate on less 'back and forth' errand driving, find walking buddies, and generally educate on alternative forms of transportation.

### ***Specific recommendations***

- A. Close down 6<sup>th</sup> street, or comparable street for about 5 hours.
- B. Set up booths of vendors/stores. They could possibly create marketing programs to encourage walking to their shops.
- C. Designate neighborhood 'leaders' who may help organize errands in bulk, especially for older neighbors.
- D. Provide music and food.

## **Sustainability/Keeping It Green**

### **1. Map Belmont's natural resources to gain understanding of our natural systems.**

#### ***Background***

Climate change has made us aware of resource depletion and its impact on traditional sustaining basins of water and timber. Water in particular plays a more important role in preventing trees from drying out. We need larger or traditional floodplains as retention basins for higher rainfalls. Water issues are made worse by hard scape, which reduces green space in urban areas. We also need to pay attention to wildlife corridors, urban forests, and neighborhood access to open space.

Questions to address

Where should streams be rescued and flood plains restored? How would a resource map inform public policy discussions? How does it fit into the General Plan? How do we protect water basins in Belmont?

Best Practices: Urban Natural Resource Management  
[http://www.nrs.fs.fed.us/urban/environmental\\_justice/](http://www.nrs.fs.fed.us/urban/environmental_justice/)  
[www.epa.gov/epainnov/international/urban.htm](http://www.epa.gov/epainnov/international/urban.htm)

Other Cities:

In order to control flooding, Tulsa, Oklahoma, is building parks in the floodplains, sports fields in storm water detention basins, and trails and greenways along creek banks. Partnerships are now well established with numerous State and Federal agencies.

<http://www.mostlivable.org/general/tulsa-flood-control.html>

San Francisco has a Livable City nonprofit that addresses recreation (providing a citywide network of paths suitable for walking, jogging, and bicycling) and open space (providing open space in neighborhoods, and linking neighborhoods to major open spaces.) <http://www.livablecity.org/campaigns/greenway.html>

## *Objectives*

Gain an understanding of natural systems that can inform our public policy decisions in order to increase livability in Belmont.

## *Specific recommendations*

1. Create a flow map of the city and use it to inform public policy (the positioning of walking paths, for instance).
2. Add Transfer of Developments rights (see next item) to the General Plan to allow development to occur where it meets City General Plan goals and objectives for siting and conservation.

## **2. Use a Floor Area Transfer Policy to create complete neighborhoods with priority conservation areas.**

## *Background*

Floor Area Transfer Policy (FATP) is only presently talked about in the San Juan Canyon area. We should use FATP in a more general sense of Transfer of Development Rights (TDR). TDRs are used to obtain development where it is desirable (Priority Development Areas—PDA) and restore environmental services where development is not desirable (Priority Conservation Areas—PCA). PDA and PCAs are a key component of the Association of Bay Area Governments and Metropolitan Transportation Commission land use policies. Complete neighborhoods are walkable communities that have most destinations accessible by foot in 1/8 mile or 1/4 mile radius. Longer trips are reduced; where they are necessary, they're efficiently connected by transit.

### Questions to address

What is the transit locus of a complete neighborhood? What household driving trips can be reduced in a complete neighborhood? What land can be accessible on foot and what will require transit? How can we prioritize our trips using the lowest energy modes possible (bike vs. car, for instance)? What, where, and which environmental services be restored?

Funding/sources: Association of Bay Area Governments and Metropolitan Transportation Commission

Best Practices: Montgomery County, Maryland

<http://www.nga.org/portal/site/nga/menuitem.9123e83a1f6786440ddcbbeb501010a0/?vgnextoid=6a685aa265b32010VgnVCM1000001a01010aRCRD> National study on Transfer of Development Rights: Top 10 success reasons when implemented  
[http://cvilletomorrow.typepad.com/charlottesville\\_tomorrow\\_/2009/02/tdr\\_best\\_practices.html](http://cvilletomorrow.typepad.com/charlottesville_tomorrow_/2009/02/tdr_best_practices.html)

Other Cities: One of the policy recommendations in Growing Cooler: the evidence on Urban Development and Climate Change.

[www.smartgrowthamerica.org/documents/growingcoolerCH1.pdf](http://www.smartgrowthamerica.org/documents/growingcoolerCH1.pdf)

## *Objectives*

Create complete neighborhoods and preserve natural land for future generations.

### *Specific recommendations*

- A. Direct Community Development and Planning to run an FATP program for complete neighborhoods.
- B. Add Transfer of Development Rights, Priority Conservation Areas, and Priority Development Areas to the General Plan.

### **3. Develop a Sustainable Return on Investment (SROI) model and use it to make decisions about infrastructure spending.**

#### *Background*

Governments build and facilitate the consumption of resources by reducing risks and bonding future generations earnings to the infrastructure. A Sustainable Return on Investment model seeks to change the relationship of government to resource consumption. SROIs calculate gain from improved environmental services and enable low-energy systems.

Infrastructure is sized on maximum capacity (for example, this is why buses are 40-passenger even though they run empty during the day) and projected growth of the energy system. This leads to bonds for sewer plants, roads, etc that are costed on flow rates. Government bonds, like the facility and pipe bonds Belmont recently passed for sewer, water, and garbage, indenture the earnings of future generations through prepaid consumption facilities.

Debt service is anti-conservation. Conservation, including a population decline, causes costs to increase, since it reduces the number of payers into the system for past infrastructure. Resource depletion increases the cost of high-energy infrastructure. For infrastructure like sewer, the debt service is larger with conservation (decreased flow).

Infrastructure transfers risk to low-energy systems. Roads for cars, for example, make it hazardous to walk. The neediest in our community pay contribute to paying for our freeways and airports, etc. while suffering the consequences of being pedestrians on an automotive infrastructure. The infrastructure for the middle class is essentially an infrastructure for high-use sized to capacity. As an example, more people from Los Gatos, Saratoga, and Atherton fly out of San Francisco International 10 or more times a year. Belmont residents use the airport less and downtown neighborhood residents much less. Yet downtown neighborhoods have to put up with the noise and pollution. They cannot contest the costs since they are paid by sales taxes through the feds or state bonds and repatriated to local agencies on fixed spending conditions.

Questions to address:

What is the investment return in converting infrastructure spending to zero-waste systems? What policies for gray water, composting toilets, and walkable communities need to be in place to convert high-emissions systems to low ones successfully? What is government's role in maintaining the health and opportunity for citizens in zero-energy systems?

#### *Objectives*

Reduce resources used and enable low-energy systems.

### *Specific recommendations*

- A. Develop an SROI model for Belmont. Use it to incentivize changes in energy systems.
- B. Reduce investment in non-SROI high-energy systems.
- C. Rededicate infrastructure to low-energy systems.
- D. Pass on the true cost of high-energy systems to users. Tier service costs to encourage conservation.

### **4. Work with San Mateo County Food Systems Alliance to encourage the use of a local food system.**

#### ***Background***

Problems with food safety have hit the news with increased frequency. The spinach, tomato, and peanut scares of the past few years have brought this issue into focus. People are more concerned about “food miles,” and the amount of CO<sub>2</sub> that it contributes to the atmosphere. They are more interested in knowing where their food comes from, wanting to buy food that was grown as close to home as possible. Health issues related to obesity and diabetes in children have made the public increasingly interested in eating healthy foods.

The San Mateo Food Systems Alliance was formed to bring food to market in San Mateo County that was grown or caught in San Mateo County.

<http://foodsystemalliance.org/sanmateo/>

As the group enters its second full year of operation, it is focusing its efforts in three areas:

- Promoting integrated health and nutrition education programs at all local elementary schools.
- Enhancing the connection between local producers and large institutional buyers of food.
- Encouraging increased local food production by looking at land use patterns in the County.

Belmont should partner with the San Mateo Food Systems Alliance to make sure more locally grown food is brought to market here.

#### Questions to address

How can Safeway and other large grocery stores in Belmont carry food grown or caught in San Mateo County? What is local? How do we get food grown in Belmont to outlets in the local stores, farmers market, or a food stand? Can community gardens, alley gardens, and backyard fruit trees be added into a local food system? How can we work with schools to improve nutrition and food production education? Can Belmont restore farms around its neighborhoods, returning character and environmental services to the urban environment?

Best Practices: Palo Alto, Berkeley, Burlingame, Menlo Park.

#### Other Cities

Oakland has an office of sustainability, which is developing a food policy (<http://www.clerkwebsvr1.oaklandnet.com/attachments/15089.pdf>) and a People's Grocery Store. [www.peoplesgrocery.org](http://www.peoplesgrocery.org)

## *Objectives*

Be able to purchase food grown in San Mateo and Belmont.

## *Specific recommendations*

- A. Set a food production goal for Belmont.
- B. Through the Food Systems Alliance, require Safeway-type stores to carry more food from San Mateo County, especially fish.
- C. Develop a means to permit stores that carry local produce and fish.
- D. Help Lunardi's expand its local fruit-buying program by identifying residents with backyard trees who would like to be suppliers.
- E. Encourage schools to implement garden-based education and improved nutrition in the cafeteria.
- F. Increase the amount of very locally grown food at Belmont's Farmers' Market.

## **5. Support residents in their efforts to grow produce locally.**

### *Background*

The importance of eating locally has caught fire. People are interested in harnessing the productivity of even the smallest scraps of residential land. Belmont gardens are already teeming with produce—backyard fruit trees tend to be prolific. In order to help make sure all the excess food grown in peoples' yards doesn't go to waste, Belmont could host regular produce exchange parties.

At these events, people could bring their individual harvests and exchange what they have for what they need. Backyard farmers would be free to bring whatever fruits, veggies, and flowers they have to offer, and while growing organically wouldn't be a requirement, transparency would be. Gardeners should just be honest about how they're growing. In addition to trading edibles, the exchanges would bring together gardeners to share ideas and tips, and organize plantings of new community gardens. Participants could choose to donate a portion of their harvests to a local food bank (we'd need to make sure there were no regulations against this).

Hosting the events could be simple. The events could be on the same Saturday of every month, and held in the parking area of Burgess Park (right next to the community garden). The City's primary responsibility would be promoting the event and setting out tables and chairs in advance to make sharing produce easier.

Belmont could also help more land become available for community gardens. For instance, the City could contact the owners of vacant lots around town to see if they would be open to letting residents turn the lots into veggie plots. The Parks and Recreation Department could explore the feasibility of setting up small community gardens in local parks.

## *Objectives*

Support Belmont gardeners in their ability to grow and share their produce.

### *Specific recommendations*

- Host monthly produce exchange events.
- Contact the owners of vacant lots to explore the possibility of turning them in to community gardens. Work with the Legal department to indemnify the owners.
- Explore the possibility of turning small portions of City parks into community gardens.

## **Transportation**

### **1. Implement a complete bike network.**

#### ***Background***

The hilly geography of Belmont limits the number of safe, flat bicycle routes that bicycle commuters can use. The four arterial streets—Ralston, Alameda, Old County and El Camino—are essentially flat, but they are inconsistent in their provision of bike lanes, especially through the commercial areas. This results in increased danger for cyclists as well as for pedestrians and drivers as bikes attempt to navigate the streets.

Approximately 50% of driving trips are less than five miles, and promoting alternatives other than single-occupancy vehicles can reduce emissions. For Belmont residents to make the decision to choose bikes over cars for some of their transportation needs, they need to feel safe. Currently, bike lanes terminate in inappropriate places to accommodate parking. For instance, if you're biking from San Mateo to Belmont on Old County Road, the bike lane terminates before you reach Belmont because of auto parking.

To make the major north/south routes safe for bicyclists, Belmont should install complete bike lanes on all four arterial streets:

***Ralston Avenue:*** Put bicycle lanes from 101 to 280. The lanes from 101 will complete the lanes currently on Marina Parkway from Redwood Shores. Ask Caltrans to put lanes on the 101 overcrossing.

***Alameda De Las Pulgas:*** Put bicycle lanes from Ralston to the San Carlos border.

***Old County Road:*** Put bicycle lanes on Old County and adopt the North South signage system from the Silicon Valley Bicycle Coalition.

***El Camino Real:*** Require Caltrans to put bike lanes on El Camino to complete the streets in Belmont for bicycles.

The street bike network should also connect to the trail system. For example, if bicyclists prefer not to use Ralston because of the high speeds, they should be allowed access from Sheep Camp Trail to St. James in Hallmark. The connection from the northern end of the Waterdog Trail to Sheep Camp should be shown on local maps. Paper trails should be reviewed for additional connectivity and published on maps, as well.

Once bicyclists arrive, they need an accessible, safe spot to store their bike. Belmont should require that 5% of all parking at City facilities and commercial buildings be set aside for bikes. This parking should be out front and visible, to remind patrons that it is available.

Funding sources: California Bicycle Transportation Account, Safe Routes To School, Air District funds.

Best Practices- Palo Alto, Berkeley, Burlingame, Menlo Park.  
Other Cities: See Palo Alto Bicycle Transportation Plan.  
[http://www.santacruzsentinel.com/nationalbreaking/ci\\_12266946](http://www.santacruzsentinel.com/nationalbreaking/ci_12266946)

### *Objectives*

- Double the number of trips for bicycling, walking, transit, etc. every ten years as measured by the census.
- Require that all modes of transportation have safe access to city streets. Implement “complete streets” as required by AB1358 (2008).

### *Specific recommendations*

- A. Change the General Plan to support complete streets by removing the Level Of Service response (especially for bicycles) and requiring that equal safety accommodations to be made for bikes and pedestrians as for motorists (like on-street parking and center turn lanes).
- B. Work with surrounding jurisdictions like San Carlos and San Mateo to adopt the same policies.
- C. Require parking cashout for commercial ventures with more than ten parking spots.
- D. Require 5% bike parking. Place bike parking and “Smart car” parking in front of the building. Require unbundled parking within a ¼ mile of Ralston El Camino to make expenditures for all transportation modes equivalent.
- E. Connect the bike network to the trail network. Make sure connections are shown on maps of the area.
- F. Install video cams and LED lights to increase safety on the trails for cyclists who are afraid of the arterial speeds.

## **2. Implement citywide traffic calming.**

### *Background*

In order to reduce Belmont’s greenhouse gas emissions, we need to make more local trips by walking, bicycling, taking public transportation, or using neighborhood electric vehicles. The engineered landscape should be rebuilt to reduce the impact of speed and throughput and take pedestrians, bicyclists, and playing children into account.

At present, neighborhood electric vehicles and golf carts are illegal, and bicyclists and pedestrians have a disincentive because of the danger level of our streets. Cars go too fast through residential areas with minimal designated walkways and blind curves. In the commercial areas, parked cars and wide intersections make it difficult for pedestrians to walk safely.

Belmont should develop a complete neighborhood concept where walking can accomplish most local trip needs and fewer trips are necessary by motorized vehicle. By overlaying mobility routes like the walking school bus, bicycle network, and urban trail system on the road system, we can see where alternatives to auto routes exist, making it possible to convert some intersections into parks like jump parks or neighborhood pocket parks to provide secure access that will increase alternate mobility. Traffic on other critical walking or bicycle routes can be choked or diverted to improve the safety of the route and reduce the ability for cars to speed through. The width of the choke should

allow neighborhood electric vehicles throughput along with walkers and cyclists. Speed humps can be added elsewhere for local neighborhood and collector streets.

The calming efforts don't have to be expensive to implement. For instance, cheap traffic circles can function as neighborhood flower gardens. "Sidewalks" can be indicated with reflective paint instead of with cement.

Current speed limits on Ralston Avenue vary from 25/30 mph to 40 mph. Due to the grade on the 40 mph section, cars often exceed this speed, increasing risk for other users of the road as well as neighbors. Decreasing the speed limit to a maximum of 35 mph will increase safety for school children attending Ralston Middle School and for cyclists using this primary east/west route, as well as allow for alternative vehicles that require a 35 mph limit for access. Furthermore, it may discourage traffic through from 101 to 280 that currently uses Belmont as a shortcut between these two freeways.

The speeds on our major arteries can also be calmed through environmental means. For instances, narrower streets with tree-lined medians have the psychological effect of slowing people's speeds.

Funding sources: Metropolitan Transportation Commission's Livable Communities grant, parking fines, parking meters.

Time to Implementation: Metropolitan Transportation Commission's RTP 2035 planning cycle.

#### Best Practices

Berkeley and Palo Alto and other university towns have citywide traffic calming. Given the size of the problem with greenhouse gases there is only discussion elsewhere on getting to walkable cities. See US Mayors walkable communities [www.usmayors.org/usmayornewspaper/documents/07\\_16\\_07/pg26\\_child\\_obesity.asp](http://www.usmayors.org/usmayornewspaper/documents/07_16_07/pg26_child_obesity.asp) and the Walk 21 New York Conference [www.walk21.com/conferences/newyork.asp](http://www.walk21.com/conferences/newyork.asp)

Other Cities: Toronto steps toward a walkable city [www.toronto.ca/transportation/walking/pdf/walkable\\_city.pdf](http://www.toronto.ca/transportation/walking/pdf/walkable_city.pdf)

#### ***Objectives***

Reduce greenhouse gases from transportation 2% per year and 80% by 2050.

#### ***Specific recommendations***

- A. Change the General Plan to disregard Level of Service and instead prioritize a transportation hierarchy based on the lowest energy and emission systems. Majority of trips should be walking and biking followed by neighborhood electric vehicles and then transit and finally single occupant automobiles.
- B. Decrease the speed limit on sections of Ralston currently over 35 mph to 35 mph.
- C. Conduct neighborhood-based household trip surveys to show Planning how to meet the needs of pedestrians in each neighborhood.
- D. Incorporate traffic calming into residential neighborhoods and on major arteries.
- E. Enforce arterial, senior center, and school zone speeds with cameras.

### **3. Encourage schools to implement a Walking School Bus, safe streets program.**

#### ***Background***

One of the largest impacts individuals can make to decrease CO2 is to find alternatives to driving. Belmont, with its small, localized neighborhood schools is an ideal community in which to implement Walking School Buses. Walking children to school as opposed to driving them is one way to minimize trips in the car.

Walking school buses run on a set schedule along a set route and include parental “drivers.” Networking to find the best routes and to recruit riders and drivers is required and can be done at the local school level. The assistance of the City may be requested and could include things such as additional street signage, speed humps, and safety seminars.

For a school to implement the program, they will need an organizer. Routes to the school will need to be mapped that maximize sidewalks, have students living nearby, etc. Schools can utilize beginning of the school year gatherings to publicize the idea. Volunteers “drivers” and student “riders” need to be recruited. The bus routes, stops, and schedules need to be set. The program will be more successful if enhancements such as mileage charts, prizes, rewards, etc. are added.

#### ***Objectives***

Reduce the number of car trips driven to drop off children, which will in turn reduced the amount of idling engines in front of the school.

#### ***Specific recommendations***

- A. Promote Walking School Bus program to all Belmont schools, including private schools.
- B. Promote the program to the media so the whole community is aware.
- C. Support the program with participation. (The mayor could join the school bus once a month, for instance.)
- D. Provide prizes and rewards as possible.

### **4. Reevaluate parking policies to encourage alternate transportation to businesses and City facilities.**

#### ***Background***

In order to encourage alternative means of transportation to business areas, minimizing free parking is one method to be considered. Parking rates can be used to manage parking priorities. Revenue from parking charges can be used to fund improvements to business areas that would benefit vendors and garner their support by ultimately increasing foot traffic, as has been done in downtown Redwood City.

Parking designations should reflect priorities. Parking for bicycles, electric and hybrid vehicles, and “Smart cars” should be prominently placed in front of businesses and schools along with easily accessible, free charging stations. Large vehicles could be required to park farther away. Parking meters could be added for parking in high traffic areas, but the affect on patronage to local businesses would need to be carefully

considered before taking this step. (The goal is to increase bicycle and foot traffic, not negatively impact businesses.)

A parking permit system could be implemented in the streets surrounding schools (especially Carlmont High School). Permits should be priced at a rate twice that of taking the bus. An access fee could be charged for the number of vehicles entering or leaving a school lot from a public street, including for events.

Best practices: Portland, Oregon provides free parking for electric vehicles in the downtown area. Each designated parking space has a free charging station.

### ***Specific recommendations***

- A. Get additional information on a system similar to the Redwood City system. Talk with business owners and other interested parties to get their assessment of system.
- B. Create an estimated cost/revenue assessment.
- C. Meet with Chamber of Commerce and other City representatives and residence to discuss the plan, its benefits and challenges.
- D. Include in the downtown redevelopment plan.

## **5. Drive pathways planning based on citywide land use plans.**

### ***Background***

This is similar to the other Transportation items on walkable communities, however this item focuses on land use changes. Walkable communities are integral to a successful policy to combat climate change, pollution, obesity, and a host of modern ills.

Questions to address:

How will we shift the majority of our trips to walking starting with school trips? How will our elderly find a home in Belmont- i.e. not have to move to a walkable community in the Sierras? How will Belmont reduce its massive subsidies of anti-walking infrastructures primarily in streets and parking requirements? How can dangerous, greater-than-20 mph traffic be eliminated from neighborhood streets? How can hindrances such as rain, a wheelchair or walker be less intimidating?

Best Practices- National Center for Bicycling and Walking

[www.bikewalk.org/workshops/walkable.php](http://www.bikewalk.org/workshops/walkable.php)

[www.wsdot.wa.gov/LocalPrograms/Planning/Walkable.htm](http://www.wsdot.wa.gov/LocalPrograms/Planning/Walkable.htm) [www.walkon.ca/how-we-build-our-communities](http://www.walkon.ca/how-we-build-our-communities)

Other Cities- Palo Alto caps groceries at 20,000 sq feet and requires context sensitive design elements [www.walkablestreets.com/walk.htm](http://www.walkablestreets.com/walk.htm)

[www.contextsensitivesolutions.org/network/one?party\\_id=7712](http://www.contextsensitivesolutions.org/network/one?party_id=7712)

San Francisco is considered one of America's most walkable cities

[www.pbs.org/americaswalking/travel/travelmost.html](http://www.pbs.org/americaswalking/travel/travelmost.html)

### ***Objectives***

Increase the number of trips that can be accomplished by walking and change the subsidies issued to driving.

### ***Specific recommendations***

- A. Use the city flow map to create a connected Urban Trail System in Belmont linked to the land uses of children.
- B. Connect urban portions of the urban trail system with green streets and bicycle boulevards.
- C. Work with the counties Trail System Update to link backbone trails with urban connector trails (from 1. and 2. above) for children and senior land uses.

## **Waste Prevention & Recycling**

### **1. Divert organic waste from the landfill.**

#### ***Background***

Food waste makes up 10 to 20% of the garbage stream. (The higher number relates to households that don't have disposals.) When our food waste decomposes in a landfill, the lack of oxygen causes it to emit large amounts of methane. Methane is 21 times more potent than carbon dioxide as a greenhouse gas. If we instead divert our food scraps from the landfill and compost them, we will make a significant reduction in those gases, and help fight global warming with our efforts right here in Belmont. In addition, this will reduce the capacity necessary to bond for landfills and sewer treatment and eliminate algae blooms which cause dead zones in water bodies by sewer outflows.

San Carlos, part of the garbage pickup consortium that Belmont belongs to, became the first city in San Mateo to institute weekly pickup of food waste through Allied Waste. Instead of filling Ox Mountain, the waste goes to Newby Island in Milpitas to be turned into compost. Although this service will be part of Belmont's recycling/garbage contract starting in 2011, we recommend that Belmont offer it as soon as possible.

The fee per household for this extra service would be less than \$3 more per month. (The additional fee is necessary because the contractor would pick up food scraps along with yard waste weekly instead of biweekly.) Plus, when the volume of a family's garbage goes down, they might be able to reduce the size of their receptacle, and thus have a reduced garbage fee. An informal poll taken last fall indicated that residents are excited about the idea and would like to move up the start date. Belmont's compost could be used for community gardens and local needs.

An even more environmentally friendly option would be to encourage residents to compost their own food waste on site. A composting basics class could be offered by the Parks & Rec department. Attendees could be offered free or low-cost compost and vermiculture bins when they complete the class. (Subsidized bins are already offered through RecycleWorks.)

Other cities:

Some regions like Los Angeles mix their food waste with sludge (the toxic byproduct of sewer treatment) and sell it as a fertilizer call TOPGRO.

#### ***Objectives***

Reduce greenhouse gases from food waste by 5% per year.

### ***Specific recommendations***

- A. Offer weekly curbside pickup of food scraps similar to San Carlos as soon as possible.
- B. Offer rebates on composting and/or vermiculture bins if residents take a composting class, which should be offered, through Parks & Rec.
- C. Study composting in Belmont or jointly with San Carlos for community gardens.

## **2. Develop a Zero Waste Plan for Belmont.**

### ***Background***

The City must shift the way it deals with waste and develop strategies to drastically reduce the amount of debris going to the landfill. The goal of Zero Waste is to maximize recycling and re-use of products thereby avoiding wasting our natural resources in creating products that will end up in the waste stream. It encourages the design of products that have the potential to be repaired, reused, or recycled. When materials can be reused and recycled it also eliminates the discharge of potentially hazardous substances to our land, air, and water. A Zero Waste plan promotes the investment of public money for waste reduction and recycling programs, such as composting of organic discards, which in turn will avoid methane gas emissions created if these products were sent to landfill. The ultimate vision is to design “waste” out of the system. This includes support for organizations such as the California Product Stewardship Council, who advocate producer responsibility for more thoughtful product design and disposal.

We recommend creating a plan similar to the “City of Palo Alto Zero Waste Operational Plan of June 2007.” Creation of the plan is a short-term project. Implementation of the solution is ongoing, affecting City operations, residents, and businesses from the point of adoption into the foreseeable future.

### ***Objectives***

Reduce the amount of waste going to landfills by 90% or more by 2020.

### ***Specific recommendations***

- A. Direct staff to develop a Zero Waste Plan that diverts 90% from landfills by 2020.
- B. Setup a zero waste committee to assist staff with the program. Hire an outside consultant for additional help as needed.
- C. Adopt waste reduction and recycling programs in all City facilities.
- D. Increase recycling and improve waste management in multi-family dwellings, including battery and cell phone recycling.
- E. Reevaluate the use of dual stream instead of single stream recycling when garbage contract is next negotiated.
- F. Provide recycling and compost collection bins along with trash receptacles in public places and businesses throughout the City.
- G. Work with local school districts to create waste reduction and recycling programs in the schools, including a zero waste lunch program.
- H. Add zero waste to the green business certification process.
- I. Tier price service fees so that the ten-gallon container is lower cost, but prices go up by container size after that. Do not use the current linear rate of per gallon per household. Add enough to the fees to pay for the programs mentioned here.

### **3. Ban the free distribution of single-use plastic bags.**

#### ***Background***

Single-use plastic bags were introduced in the United States in 1975, and became commonly used by grocery stores in 1977. They are popular because they are strong, lightweight, and inexpensive to produce. California uses about 2 billion plastic bags per year (California Integrated Waste Management Board). Of these, less than 5% are currently recycled. Plastic bags are made from petroleum-based products. They cause litter, harm marine animals, release toxins, and do not degrade in landfills. Paper bags are made from trees, create pollution during their manufacturing process, and are heavy to transport. One reusable bag replaces hundreds of single-use bags.

The cost of managing and cleaning up the more than 95 percent of one-time use plastic bags that become litter or are sent to landfill is generally borne by local governments and ultimately the taxpayers. A reduction in the weight going to the landfill will save Belmont money. In addition, fewer volunteer hours would be needed to clean streets and creek beds, etc. Fewer birds and fish would be killed by ingesting plastic bags.

Once reusable bags are commonly used, stores will save money of providing bags and gain a better reputation to be more sustainable by promoting reusable ones. There will be short-term costs to stores who choose to provide incentives to customers who bring their own bags, because the incentives are greater than the per-bag cost to the store.

If the City provides bags, all or nearly all expenses associated with bag production may be offset if they allow local companies and organizations to include their logos and other information as artwork on the bags.

Best practices:

Ireland taxed plastic bags in 2002. China banned free plastic bags. Bangladesh, Rwanda, Paris, and London banned plastic bags. Israel, Canada, western India, Botswana, Kenya, Tanzania, South Africa, Taiwan, and Singapore are moving toward banning plastic bags. In 2007, San Francisco was the 1<sup>st</sup> US city to ban plastic bags. Oakland, Boston, Portland, Phoenix are moving toward banning them.

#### ***Objectives***

Transition Belmont residents into using reusable bags instead of plastic ones.

#### ***Specific recommendations***

- A. Educate the public to carry reusable shopping bags through outreach programs.
- B. Educate retail employees: Ask if a bag is needed or “did you bring your bag today?” Pack more into each bag, and reduce the amount of double bagging.
- C. Develop a program to distribute reusable shopping bags to City residents at little or no cost, including partnerships with bag manufacturers for logo opportunities.
- D. Ban the use of plastic bags at the Farmers’ Market.
- E. Require local retailers to stock alternative compostable disposable bags.
- F. Enforce compliance with current plastic bag recycling programs (CA AB 2449).
- G. Endorse new legislation for stronger plastic bag legislation (CA AB 2058) which includes requirements for per-bag charges when recycle goals are not met.

#### **4. Implement green practices for all City events requiring a permit.**

##### ***Background***

When planning and/or approving events for the city, Belmont should seek to find win-win solutions between business, community, and the environment. Adopting an eco ethic can lead to significant benefits, whether or not the event attracts a demographic of consumers with deeply held environmental beliefs. Long-term savings are achieved by cutting down on material costs. Loyalty increases among sponsors, attendees and exhibitors as an eco-friendly, socially responsible image is cultivated. New revenue streams are uncovered and sponsorship opportunities increase as business standing in the industry is fortified. And going green can open up greater possibilities for media coverage, raising awareness for an event.

The continued wave of green business innovation and investment opportunity is transforming the way we do business. Consumer and business demand for environmentally sustainable and socially responsible products and services will continue to climb steadily. More companies are shifting from the “take, make and throw away” model to green business practices that vest profit with environmental wisdom. Belmont should contribute sustainable solutions that improve the experience, health and well being of all participants, as well as the earth. (This information contributed by Seven-Star, a green event management company.)

##### ***Objectives***

Ensure that all Belmont events follow sustainable practices.

##### ***Specific recommendations***

- A. Establish an environmental statement or policy for events. Get buy-in for it from the event’s management. Share the policy with suppliers and vendors.
- B. Use new media and electronic technology to cut down paper use. Create an event web site and advertise using the web and/or email.
- C. Have food and beverage service providers use bulk dispensers for sugar, salt, pepper, cream and other condiments. Provide compostable cutlery and service ware.
- D. Try to use a sustainable food supplier. Talk to Sustainable San Mateo County to find local suppliers. Include vegetarian foods, and have dishes planned using local, seasonal produce.
- E. Require the event organizer to provide visible and accessible reduction, reuse and recycling services for paper, metal, plastic and glass. Separate out compostable materials and work with the garbage service company to make sure they are sent to a composting facility afterward. Station volunteers at the recycle sites to help attendees understand the system.
- F. Have all printed materials published on recycled paper, using vegetable-based inks, and on both sides of the page.
- G. Minimize the number of cars driven to events. Impose a fee on the event proportional to the number of autos expected. Event managers could charge for parking as a way to encourage attendees to choose alternate means of getting to the event. Work to link up area parking lots like Caltrans and Oracle with the event organizer and encourage them to charge for the use of their lots.
- H. Require valet bike parking as a condition of the permit and Traffic Demand Management options. Bike parking can be provided by Bike San Mateo County. for an example of a

Traffic Demand Management options analyses see the Maker's Faire (held at the Expo Center at the end of May).

- I. Publicize policies and successes to attendees, speakers, and the media.

## **5. Adopt a Precautionary Principle Resolution/Ordinance for Belmont's purchasing.**

### ***Background***

Belmont should model its purchasing guidelines on the Precautionary Principle Resolution that San Francisco passed. This law puts the precautionary principle into action by requiring safer alternatives when purchasing commodities for the City. The ordinance was modeled after the pilot program, the Environmentally Preferable Purchasing Program, which was established in the San Francisco Environment Code Ordinance. The Precautionary Purchasing Ordinance mandates that the City of San Francisco consider environmental and health impacts when making a purchase, and that the City choose healthier, more sustainable alternatives to the products it buys. The Ordinance could apply to everything from computers to cleaning products, and the products that will be targeted by the ordinance will be determined using community input. This creates opportunities for residents and workers to actively participate in the City purchasing process by helping to set purchasing priorities, identify concerns, and establish criteria.

The "Targeted Product Categories" list contains ten broad categories of products purchased by the City. Products within these categories will be given the highest priority for environmentally preferable purchasing efforts within the next several years. The categories list was created with input from community members, business owners, government employees, and other stakeholders.

### ***Objectives***

Increase the availability of environmentally safe products by creating a local market for them.

### ***Specific recommendations***

- A. Adapt San Francisco's ordinance for use in Belmont.
- B. Continue to expand the list of product categories on the list over time.

## **6. Require businesses to adopt more environmentally practices through a product stewardship ordinance.**

### ***Background***

Businesses are a powerful force in our society and often act as the engine that drives economic growth. Businesses contribute substantially to the use of resources and production of greenhouse gas emissions within our community. It is important for Belmont businesses to operate in ways that decrease their environmental impact.

Product stewardship is a concept whereby environmental protection centers around the product itself, and everyone involved in the lifespan of the product is called upon to take up responsibility to reduce its environmental impact. For manufacturers, this includes planning for, and if necessary, paying for the recycling or disposal of the product at the end of its useful life. This may be achieved, in part, by redesigning products to use fewer harmful substances, to be more durable, reusable and recyclable, and to make products

from recycled materials. For retailers and consumers, this means taking an active role in ensuring the proper disposal or recycling of an end-of-life product.

Polystyrene is a common environmental pollutant as well as a nonbiodegradable, non-compostable, non-recyclable or non-reusable substance used as food service ware by food vendors operating in the Belmont, but there continues to be no substantial recycling of polystyrene food service ware. Because of this, disposable food service ware constitutes a portion of the litter in Belmont's streets, parks, and public places, which increases City costs. Polystyrene foam is a common pollutant that fragments into smaller, nonbiodegradable pieces that are ingested by marine life and other wildlife thus harming or killing them.

In the manufacturing process as well as the use and disposal of products, the energy consumption, greenhouse gas effect, and other environmental effects, polystyrene's environmental impacts are rated second highest, according to the California Integrated Waste Management Board. Styrene, a component of polystyrene, is a known hazardous substance that medical evidence and the Food and Drug Administration suggests leaches from polystyrene containers into food and drink and is a suspected carcinogen and neurotoxin which potentially threatens human health. The general public is not typically warned of such potential hazards.

Due to these concerns, cities began banning polystyrene foam food service ware. This includes several California cities such as Berkeley (1990), Oakland (2007), and San Francisco (2007). Local businesses and several national corporations have successfully replaced it and other non-biodegradable food service ware with affordable, safe, biodegradable products. Affordable compostable food service ware products are increasingly becoming available for most food service applications such as cups, plates, and hinged containers and these products are more ecologically sound than polystyrene materials and can be turned into a compost product.

Best practices:

See San Francisco's Product Stewardship Resolution/Ordinance  
See Millbrae's new food service ware ordinance.

### ***Objective***

Belmont should protect the health and safety of its residents, the natural environment, waterways and wildlife. This requirement would advance the City's goal of becoming a sustainable City.

### ***Specific recommendations***

- A. Adopt a sustainable food service ware ordinance prohibiting the use of polystyrene foam and solid disposable food service ware and requiring the use of biodegradable, compostable, reusable or recyclable food service ware by food vendors in the City and in City facilities.
- B. Adopt a Product Stewardship Resolution/Ordinance.
- C. Ensure that toxic materials, including asbestos and old medicines are handled, transported, and disposed of properly.

## Water & Energy

### **1. Implement a city-scale weatherization and energy efficiency program using stimulus funds as seed funding if possible.**

#### ***Background***

Why focus on efficiency?

America's 101 million households and 4.6 million commercial structures account for two-fifths of U.S. energy consumption and GHG emissions. Efficiency is the fastest and cheapest way to address global warming because 55% of all U.S. energy is wasted. Americans spend more than 5% of their income on energy costs. Low-income American's spend more than 16%.

Why doesn't America retrofit?

- Lack of upfront capital
- Short time horizons (Homeowner concerned he/she won't realize the savings if he moves too early.)
- "Split incentives" (In a lot of buildings the tenant pays the energy bill, so the landlord isn't motivated to pay more to reduce the tenants bill.)
- Poor information (lack of understanding about how much can be saved, where to hire contractors, how to get guaranteed work)

What is retrofitting?

- |                                   |                                |
|-----------------------------------|--------------------------------|
| • Wall insulation                 | • Ceiling insulation           |
| • Rimjoist insulation             | • Pipe insulation              |
| • Appliance replacement           | • Fluorescent lighting         |
| • Air-leak sealing                | • Furnace replacement          |
| • Boiler replacement              | • Boiler controls              |
| • Boiler pipe insulation          | • Hot water heater replacement |
| • Hot water temperature reduction | • Hot water heater wrap        |
| • LED exit signs                  | • Outdoor lighting controls    |

How does a city-scale retrofit program work?

Customers buy retrofits with little to no up-front payment. They will pay for the retrofits over time (approximately 10-15 years) on their monthly utility bill or other bill. Since their energy cost savings are higher, even with the payback amount, the overall bill is usually the same or lower than it was before. If the customer leaves the property before the work has been paid off, the payment transfers to the new occupant.

Energy Efficiency & Conservation block grants assist local governments in reducing energy use and implementing energy efficiency programs. This is an opportunity to jumpstart local clean energy and energy efficiency projects that provide long-term benefits and sustained job creation.

The Department of Energy distributes formula grants to large cities and counties (\$1.9 B); states administer funds to smaller cities and counties (\$770 M); ~\$450M in competitive grants for local projects. Cities can establish a revolving loan fund to finance

the retrofit program (Portland and Seattle are examples).

California passed AB 811, which allows any city or county to create similar programs using a utility bond, financing district, renewal fund or by opting into an existing program run by the California Energy Commission. California's goal was to gain a large and quick reduction in CO2. AB 811 allows stimulus money from the feds to be leveraged. For example, AB811 money can be used to setup the program and hire staff at the city, and allows the county to use bond and stimulus funds. Belmont can implement the program by working out all the intergovernmental kinks. Or we can push for a countywide program through City/County Association of Governments (C/CAG), which would be better than each jurisdiction trying to get the program to work.

Best practices: Portland, OR and Babylon, NY are good models

Sonoma County passed a Utility Bond for home efficiency and created a special district through which homeowners can opt in to run energy audits and fix up their homes with a county loan that is later repaid on their taxes over 20 years. The benefits of this program are that the entire retrofit is cash positive and homeowners see a positive payback from Day One.

More information:

- [www.greenforall.org](http://www.greenforall.org)
- "A Short Guide to Setting up a City-Scale Retrofit Program," by Green For All and COWS: <http://www.greenforall.org/short-guide-city-scale-retrofit>
- Case Study: Long Island Green Homes program in Babylon, NY: <http://www.greenforall.org/what-we-do/building-a-movement/community-of-practice/case-studies/long-island-green-homes-case-study/download>
- Case Study: Portland Clean Energy Fund: <http://www.greenforall.org/portland-clean-energy-fund>
- Bringing Recovery Funds Home: An Activist Toolkit; (covers EECBG in great detail – including application guidelines and dates <http://www.coolcities.us/fullStory.php?storyID=114&mode=view>)
- "Market Development for Building Energy Efficiency Retrofits," by RW Ventures & O-H Community Partners: <http://www.greenforall.org/chicago-concept-paper>
- "Enabling Investments in Energy Efficiency" by Merrian Fuller, Energy & Resources Group UC Berkeley: <http://www.greenforall.org/what-we-do/building-a-movement/community-of-practice/case-studies/enabling-energy-efficiency-programs/download>

### ***Objectives***

Jump-start the move toward energy efficiency in Belmont's residential structures.

### ***Specific recommendations***

- A. Study the progress other cities have made. Contact them for support if necessary.
- B. Evaluate which stimulus funds could apply to this project for Belmont.
- C. Apply for funds.
- D. Develop program and execute.

## **2. Implement an aggressive water conservation program for both residential and commercial customers.**

### ***Background***

California is currently in the third year of a drought. The State is in a “Severe” drought status, the 2<sup>nd</sup>-most dangerous level on the scale. Reservoirs are low; precipitation, snow pack and runoff are all well below normal, and are forecasted to remain so. According to the State, mandatory conservation may need to be enacted in communities that do not have adequate water supplies. The Governor has issued a State of Emergency Proclamation for nine counties in the State.

While most of us have seen limited impact on our personal lives to date, the consequences of our water emergency are numerous:

- Loss of dry land grazing and decrease in arable land, increasing food prices and increasing the percentage of our food that needs to travel great distances (resulting in greater petroleum demand, reliance on Middle Eastern oil, and global climate change)
- An increase in the number and severity of wildfires. Wildfires also affect water quality and recharge of ground water basins. California is also no stranger to the personal property destruction and mortality that result from wildfires
- Increased tree mortality, decreasing the planet’s ability combat climate change
- Changes to wildlife habitats, including the extinction of species
- Whole sectors of the economy may collapse (as in Australia, in the 10<sup>th</sup> year of its drought); to date California has already seen drastic economic hardship (including \$325M+ in farm revenue loss; \$440M+ in income loss; 16,000 jobs lost, primarily among those at the bottom of the pay scale; and \$150M+ increase in groundwater pumping costs)

While drought conditions can get better or worse from year to year, water supply management will become an increasing challenge going forward. Protection of endangered species requires restrictions of select water sources. Population increase, and its impact on demand for more agriculture and resulting irrigation, will make water even more precious. As a result, the state and federal government have embarked upon an expensive program to increase water storage, improve conveyance, and promote water conservation. Belmont and our residents, too, must do our part. Our current level of water consumption and waste needs to change.

Belmont needs to develop a comprehensive water conservation plan that involves every segment.

Landscaping water consumption is 50% of urban water use. A water-efficient landscape ordinance would assist Belmont with essential water conservation practices. Consideration of more stringent requirements than the state model can be an effective use of staff time since the State of California requires that all jurisdictions adopt a water conservation ordinance that is at least as stringent as the state’s model ordinance. This program would an effective response to the growing concerns of drought and the required long-term reduction in water usage. The following requirements would be for both residential and commercial landscapes:

- Require high-efficiency irrigation systems (low-flow drip, bubblers or low-flow sprinklers) in landscape plans. Ensure that the irrigation system is properly designed for the site.
- Encourage or require smart (weather-based) controllers.
- Reduce turf area/high water use area from current requirements.
- Require 75% of planted areas are California Natives or Mediterranean species

(drought tolerant).

- Require 2 inches of compost in the top 6 to 12 inches of soil on non-turf, non-hard cape areas at the time of installation.
- Require solar hot water systems for new pool installations or renovations.
- Review Belmont's current water management practices and consider use of the most current water conservation practices and technologies.

To get resident and business owner support for these new requirements, Belmont should roll out an education campaign. This would include information about California Natives or Mediterranean species and why they're so perfect for Belmont gardens. The City could provide special information and support for residents considering replacing their lawns.

Belmont should develop and enforce water conservation regulations that can be implemented during periods of drought:

- Prohibit watering between 9am and 7pm; newly planted seed or sod may be exempt from the restrictions for the first ten days during permitted hours of use after obtaining a Sod Watering Permit.
- Allow watering only on alternate days (even-numbered homes on even-numbered days, odd-numbered homes on odd-numbered days).
- Prohibit watering during periods of rain.
- Eliminate excessive irrigation water from running off property or spraying onto sidewalks and paved areas
- Require a self-closing water nozzle for all outdoor washing (e.g., cars, homes)

Belmont should explore a toilet replacement program like Redwood City's. Most residents don't know that every time they flush the toilet, they may be wasting three to five gallons of water. A low-flow toilet is a great way to save water and money with each flush. One thousand free ultra low-flow toilets were given away to Redwood City water customers in exchange for their old high water-use toilets. Customers were responsible for installing their new toilets and returning their old toilets to the City for recycling. The new toilets are high-quality, innovative two-button dual flush models, giving residents the choice to flush 1.6 gallons for solid waste and a remarkably low 0.8 gallons for liquid waste. That results in up to 67% additional water savings over other low-flow toilets. The free toilets are valued at approximately \$400 retail. Belmont could apply for grants to fund this type of program.

Other Cities:

Petaluma: <http://cityofpetaluma.net/wrcd/pdf/ordinance-guidebook-and-submittal-forms100808.pdf>

Redwood City: <http://www.redwoodcity.org/publicworks/water/toiletprogramindex.html>

Pacifica has a tiered rate for water consumption.

### ***Objectives***

- Eliminate non-essential water demand
- Manage water supplies more smartly
- Lower energy costs
- Reduce waste stream and treatment costs

### ***Specific recommendations***

- A. Partner with Mid-Peninsula Water District to identify and implement best management practices for water conservation, including tiered water rates. Publicize ideas and information to residents.
- B. Publicize all relevant rebate programs for water conservation efforts.
- C. Implement legislation that requires every residential and commercial property to be equipped with efficient plumbing fixtures either upon resale or change of service.
- D. Conduct an audit of all City water use and identify opportunities for improvement. Implement all of the aforementioned water consumptions policies on City properties.

### **3. Encourage residents and commercial customers to hold water on site.**

#### ***Background***

Storm drain water is often more toxic than sewage. And unlike sewage, which is extensively treated before being returned to the bay, urban surface runoff entering the storm drain receives no treatment before being pumped directly to the bay. Storm drains carry more than rain—water from over irrigation, car washing, and power washing are all sources of storm drain water.

Residents and contractors should be encouraged to use permeable surfaces such as paving stones for residential driveways, patios, walkways, parking lots, and other paved surfaces. Permeable surfaces allow water to pass through to soil level and prevent a significant portion of urban water runoff. They can be easier, less expensive and less resource intensive to maintain, unlike concrete and asphalt, which require demolition to repair or replace.

Rainwater harvesting is the gathering, or accumulating and storing, of rainwater. It has become a very popular method of conserving water especially in urban areas. Rainwater harvesting essentially means collecting rainwater on the roofs of building and storing it underground for later use. Not only does this recharging arrest groundwater depletion, it also raises the declining water table and can help augment water supply.

All you need for a water harvesting system is rain, and a place to collect it. Typically, rain is collected on rooftops and other surfaces, and the water is carried down to where it can be used immediately or stored. You can direct water run-off from this surface to plants, trees or lawns.

#### ***Objectives***

Reduce the amount of water that runs into storm drains.

#### ***Specific recommendations***

- A. Particularly for future projects, Belmont should use permeable surfaces instead of concrete or asphalt on public pedestrian pathways, City-owned driveways, etc.
- B. Educate City residents about permeable surfaces and rainwater harvesting systems. Provide information for residents and contractors online, over a hotline and in booklets that are distributed at public events. A landscaping book of tips may include information on the benefits of paving stones and cisterns, starter tips, and a list of certified contractors.