Final Report of the Green Brighton Task Force:

Recommendations for a Sustainable Future

August 2008

Executive Summary

The Town of Brighton is well-situated to become a leader in sustainability and climate protection. It is a first-ring suburb, so access to public and alternative transportation is easier than in outer suburbs. It has a large amount of green space and urban forest and has already dedicated itself to preserving and improving its trees. Its inhabitants share a strong sense of community, as shown by the high level of community support for the schools, parks, and Town events. Furthermore, the Town government has explicitly dedicated itself to advancing environmental sustainability.

The Green Brighton Task Force was created by Supervisor Sandra Frankel in April 2007. It worked for a year to develop a set of recommendations for Town action on energy and sustainability issues. The recommendations include the following:

1. Ensure that sustainability remains a Town priority
2. Encourage green buildings (public and private)
3. Support walkability and alternative transportation
4. Reduce energy used by Town vehicles
5. Create more efficient exterior lighting in the public realm
6. Create a culture of conservation in Town government
7. Create a culture of conservation in the community
8. Encourage green business development and green business practices
9. Reduce storm water runoff and improve storm water quality

In order to ensure the implementation and ongoing monitoring of these recommendations, the Task Force recommends the creation of the following three organizations:

- A municipal Sustainability Oversight Committee, formed by the Town government;
- An independent Environmental Action Committee, formed by citizens with the collaboration and support of the Town government; and
- A bicycling committee, formed by the Town government.

Detailed Action Plan

Immediate Action (0-1 year):

- Create a Sustainability Oversight Committee
- Modify the Town's Forestry Plan to include energy benefits
- Expand environmental review of new development
- Require major municipal projects to be LEED certified
- Operate Town buildings to maximize efficiency
- Evaluate vehicle purchases as part of the annual Capital Improvement Program
- Evaluate alternatives to current mode of yard waste pick-up
- Replace mercury vapor street lamps as they fail
- Ensure adequate Town recycling facilities
- Establish and support an Environmental Action Committee

Near-Term Action (1-2 years):

- Incorporate sustainability in the Comprehensive Plan update
- Consider amendments to off-street parking regulations
- Consider regulatory amendments to require sidewalk construction
- Facilitate local access to public transportation
- Develop a green purchasing program
- Encourage and enforce best transportation practices
- Develop and support environmental best practices for Town staff
- Test efficient street lamp options in a public location
- Replace incandescent street lamps with more efficient fixtures

Mid-Term Action (2-3 years):

- Incorporate green building strategies in Comprehensive Development regulations
- Consider regulatory amendments to incorporate green principles
- Support and encourage green technologies
- Work to influence state government to increase efficient street lamp options
- Consider Town Code amendments to restrict exterior commercial lighting

Ongoing Action:

- Support programs that encourage alternative transportation
- Continually review and revise Town vehicle guidelines
- Support green efforts in the schools
- Support green efforts in the community
- Maintain Town support for the Brighton Farmer's Market
- Support green business development
- Reduce storm water runoff and improve storm water quality

Introduction

Vision

With approximately three-quarters of U.S. residents living in urban areas, our nation's future relies on the well-being of our towns and cities. The well-being of these communities depends on making them sustainable, livable, viable, and vital. To this end, development must be balanced with the long-term health of the environment. The Town of Brighton is committed to implementing sustainable practices on the part of the government and encouraging sustainable lifestyles within the broader community. Brighton has shown a commitment to protecting its open space and vegetation and providing linkages for bicycles and pedestrians. It has been a Tree City, USA for six years and adopted a Tree Preservation Law and Urban Forestry Plan. It created a 400-acre town-wide park system to preserve green space, protect environmentally sensitive areas, and provide active and passive recreation. The Town's commitment to conservation and green living is now being extended explicitly to consider efficient use of our energy and water resources.

All Town policies, especially land-use policies, have a significant impact on the overall ability of Brighton to be a sustainable community. These policies affect energy consumption patterns, water and natural resource use, open space, and transportation. Such items can be regional, national, or global in character and may, therefore, be beyond the statutory authority of the Town to control. This does not, however, relieve the Town of its responsibility to do its best to create and participate in initiatives that can advance environmental priorities.

The overriding philosophy that should guide future growth and redevelopment of the Town of Brighton is sustainability. Decision-making on transportation, development, and re-development should be made with an eye toward the future. The Town must be aware of how each decision will incrementally impact the needs of future generations, and also how the sum of all prior decisions will cumulatively affect those needs.

Background

Supervisor Sandra Frankel announced the formation of the Green Brighton Task Force in April 2007. In May 2007, the Town Board endorsed the Mayors' Climate Protection Agreement. To support the Town's commitment to climate protection, the Board voted to become a member of ICLEI - Local Governments for Sustainability. ICLEI's support includes a software program to help assess energy use and greenhouse emissions, and reference materials from other communities that have committed themselves to climate protection.

The task force was given three goals: to educate the community about energy-saving measures, to develop recommendations for maximizing the energy efficiency of town operations, and to identify regulatory changes to promote green practices in the built environment. These three goals defined the organizational structure of the task force: a steering committee overseeing three subcommittees, one assigned to each goal. Each subcommittee membership included a representative from Town staff and the Brighton Central School District; the remainder of the

membership came from citizens who volunteered. Each committee met monthly and provided updates to the steering committee. The task force worked over the course of a year to assess current energy use by the Town and to identify recommendations and assign implementation strategies for each recommendation. Within the implementation discussion, some actions were assigned near-term or mid-term priorities. Near-term refers to actions that should be considered or acted upon within the next one to two years; assignment of a mid-term priority reflects a two to three year time scale.

Energy and Emissions Assessments

Three separate assessments of the Town's current energy use were conducted. They are described in detail below.

NYPA Energy Audit The New York Power Authority provided technical assistance to the Town to reduce energy costs for our Town Hall Complex and for the Public Works Operations Center. The Study identified energy conservation measures, recommended some of them, provided the estimated cost of each, and estimated the savings to be realized. The Study was conducted 8 January 2008, with the final report delivered in May. A summary table of recommendations is provided on in Appendix B.

Greenhouse Gas Emissions Inventory The Task Force conducted a baseline inventory of greenhouse gas emissions from all municipal activities. The inventory was performed using ICLEI's Clean Air and Climate Protection software package by an intern under the supervision of Public Works Commissioner Tom Low.

Data from 2005 were used, because that was the most recent year with complete data. Given the significant recent increase in the price of petroleum-based products, the financial statistics underestimate current expenditures.

A summary of the results is provided below.

Sector	Tons of CO_2 equivalent	Dollars spent
Buildings	5,177	$194,400
Vehicles	1,726	$233,800
Street Lighting	485	$351,300
Water/Sewage	38	$11,200
Waste	−162	$7,400
Total	7,263	$797,900

RIT Vehicle Study At the request of the Green Brighton Operations Committee, researchers at the Center for Integrated Manufacturing Studies (CIMS) at Rochester Institute of Technology evaluated the Town's vehicle fleet and the potential for alternative fuels and improved practices. The presentation prepared by this group is attached in Appendix B.

Previous Actions

The Town government already has taken a number of steps toward sustainability. Many were initiated prior to the Green Brighton Task Force. The following is a list of actions that have been or are in the process of being taken by the government in the last eighteen months.

1. Turn off computers at the end of the workday unless necessary for operations
2. Adopted Town Board policy on vehicle idling
3. Installed energy efficient exit signs in Town Hall
4. Replacing incandescent light bulbs in Town buildings with energy-saving compact fluorescent bulbs
5. Recycle composted yard debris as free mulch for residents
6. Offered electronic equipment recycling events for the community
7. Participate in Monroe County paper, metal, and glass recycling program
8. Procured almost 200 acres of open space

The actions listed above, together with the formation of and support for the Green Brighton Task Force, demonstrate the commitment of the current Town government and staff to sustainability. The recommendations presented below represent a broad spectrum of actions that can help move the Town government and citizenry toward greater efficiency. Some recommendations will be easily implemented; others may turn out to be economically impractical; while others may be rendered obsolete by new technologies not yet anticipated. The new committees that grow from the Green Brighton Task Force, together with Town government and staff, have the responsibility and challenge of implementing these recommendations and adapting to new technological and economic realities as they emerge.

Recommendations

1 Ensure That Sustainability Remains a Town Priority

1.1 Incorporate sustainability in the Comprehensive Plan Update

Background The Town Comprehensive Plan is reviewed every ten years. It serves as a road map for future development. It is imperative that the value of sustainability is fully integrated into the update and implemented.

Details Charge the Steering Committee for the Update of the Town's Comprehensive Plan to acknowledge, in both the Vision Statement and in the Goals, the following:

1. the Green Brighton Task Force's report and recommendations;
2. that new developments should follow sustainable design strategies;
3. that significant aspects of our existing, built environment should be preserved and made more sustainable (e.g., our residential neighborhoods); and
4. that significant aspects of our existing natural environment should be preserved and protected.

Implementation This is a near-term priority, since the Steering Committee will begin work on the update in Fall 2008. We recommend that members of the Comprehensive Plan Update Steering Committee be intimately familiar with the values and recommendations outlined in this report. Consideration should be given to having a member of the Green Brighton Task Force serve on the committee.

1.2 Create a Sustainability Oversight Committee

Background The Green Brighton Task Force was charged with developing a set of recommendations for energy conservation and alternative energy options for the Town Government and the broader community. This report outlines these recommendations and represents the culmination of the work of the Green Brighton Task Force. The Sustainability Oversight Committee is the body that will carry these recommendations forward and ensure their implementation and adaptation, as technology and economic and environmental conditions evolve.

Details

1. Committee responsibilities should include the following:
    - Monitor implementation of recommendations and work with Town staff to provide support where needed;
    - Annually review implementation of recommendations and revise the recommendations as necessary;
    - Keep the community informed of progress through updates in Town newsletters, press releases, and other media;
    - Participate in ICLEI events;
    - Work with ICLEI to develop a formal Climate Action Plan;
    - Review capital requests to ensure that sustainability is considered;

- Liaison with schools, the business community, the new Environmental Action Committee (see page 22 for details), and other community efforts;
- Monitor new technologies, such as plug-in hybrids, and the potential for implementation and/or encouragement; and
- Identify future issues and opportunities and help establish new citizen committees as needed.

2. Committee should be appointed by the Town Board.

3. Committee membership should include:

   - One Town Board member;
   - At least one Town staff person;
   - At least one participant from the Green Brighton Task Force;
   - At least one professional with energy-related technical expertise, either through LEED (Leadership in Energy and Environmental Design) or NYSERDA (New York State Energy Research and Development Authority) certification or comparable experience;
   - At least one representative from the business community;
   - At least one high school student; and
   - Additional interested citizens, to bring the committee membership to a maximum of nine.

   If the Town Board is unable to identify candidates with the desired qualifications within 60 days, other interested and committed volunteers should be considered.

4. We recommend that the committee meet monthly in the initial stages. Frequency of meetings may decrease over time.

5. Committee should provide updates to the Town Board as requested by the Board.

Implementation This committee should be established immediately following the acceptance of this report by the Town Board.

1.3 Modify the Town's Forestry Plan to include energy benefits

Background The Town Forestry Plan is a town document that was adopted in 2004 and highlights the importance of trees. In light of concern about the community's impact on global warming, the carbon uptake by trees is of noted significance. Expanding

Trees can reduce local ambient temperatures by 5 degrees (McPherson et. al, 2003).

the reference to the benefits of trees underscores the sustainability goals of the Town government. Additional trees both increase carbon uptake and provide additional shade, which reduces the demand for cooling.

Details Consider revising the Town's Forestry Plan (see especially the Guidelines for Managing Brighton's Forest, page 14):

"The Town is dedicated to maintaining and increasing the Town tree population level. All Town trees that are removed shall be replaced. The Town recognizes the importance of trees in providing both shade and carbon uptake. The Town will inventory sites, in parks and along roads, that may be suitable for the planting of additional trees. The Town will then develop and implement a multi-year plan to plant in those sites."

Implementation Immediate.

2 Encourage Green Buildings (Public and Private)

2.1 Incorporate green building strategies in Comprehensive Development regulations

Background The energy used to operate buildings accounts for 39% of CO_2 emissions and 48% of all greenhouse gases in the United States (`www.greenplaybook.org`). Buildings also transform lands that provide valuable ecological resources, consume water and other resources, and provide an indoor environment. Green design can make a positive impact on public health and the environment, can reduce energy consumption, and can make a more sustainable community. The separate treatment of residential construction recognizes that LEED standards for them are just being released, yet residential structures are 53% of the area of all buildings in Town.

Details Consider amendments to the Comprehensive Development regulations to incorporate initiatives based on the LEED program.

Specific actions include:

1. Expanding the Incentive Zoning regulations to include a third article to recognize LEED compliance among the permitted amenities to be offered, to the Town and to the global environment, for commercial, office, and residential projects;

2. Providing other incentives for the use of LEED, such as technical referrals, recognition, and/or a speedier review process;

3. Monitoring the success (both legal and environmental) of LEED requirements elsewhere in New York State and, when appropriate, requiring LEED compliance for commercial and office developments in excess of 10,000-15,000 SF; and,

4. Monitoring the development and national adoption of LEED and/or NAHB (National Association of Home Builders) standards for residential construction and renovation and, when appropriate, offering incentives and/or requirements for compliance.

Implementation Mid-term. This work should be done jointly by Town staff and the Sustainability Oversight Committee.

2.2 Consider regulatory amendments to incorporate green principles

Background The separate, earlier treatment of particular green building strategies may allow the Town to attain some improvement in the sustainability of new developments while research and public discussions take place on the larger issue of requiring LEED compliance.

Details Amendments to the Comprehensive Development regulations could incorporate, earlier in the development of our climate change plan, certain specific features of the LEED program.

Specific actions include:

1. Reducing the off-street parking requirement where deemed appropriate;
2. Requiring concrete rather than asphalt paving, where economically feasible;
3. Requiring the use of light-colored or green roofs;
4. Requiring the use of native species in landscaping;
5. Requiring a formal commissioning process for building HVAC systems;
6. Requiring the provision of interior and/or exterior spaces for the storage and collection of recyclables; and
7. Empowering the Architecture Review Board to review a building's orientation and window area with an eye to reducing cooling loads and interior lighting needs.

Implementation Mid-term.

2.3 Expand environmental review of new development

Background The State Environmental Quality Review Act provides a process through which potential environmental impacts are identified and mitigated as part of governmental decisions on public improvements and private developments. The concerns listed above should join the more traditional issues (such as traffic and wetlands) in those reviews, allowing decisions to be made with an eye to sustainability.

Details In the environmental review of all projects for which an Environmental Impact Statement is prepared, consider a policy to include a description of the proposed action and evaluation of the range of reasonable alternatives.

Specific issues include the following:

1. Conservation of energy in the design, construction and operation of the project;
2. Impacts on the generation and the recycling of construction and demolition debris;
3. Impacts on movement by foot, bicycle, and mass transit;
4. Impacts of exterior lighting; and
5. Input from the Rochester Genesee Regional Transportation Authority (RGRTA) when proposing major commercial and multi-family housing developments.

Specific questions addressing the above issues should be added as a supplement to the Environmental Assessment Form, both the short and long forms.

Implementation Immediate. The policy and forms should be developed by Planning Department staff in consultation with the Conservation Board and the Town Attorney, then considered and adopted by the Town Board.

2.4 Support and encourage green technologies

Background Encouraging on-site, renewable energy self-supply will reduce environmental and economic impacts associated with fossil-fueled energy use in town buildings. The potential for conflicts with neighborhood character in residential areas must be considered, and hard choices must be made.

Details The installation of roof and exterior-mounted solar collection systems, green roofs, solar hot water heaters, and other sustainable designs can be effective ways to reduce energy demand by individual buildings. Specific actions to support and encourage these technologies include:

1. Providing information to builders and owners (e.g., on the Town's website, in news releases, in free publications); and
2. Investigating possible code revisions to categorically allow such technologies.

Implementation Mid-term.

2.5 Require major municipal projects to be LEED certified

Background Town buildings are one of the major sources of energy use and greenhouse gas emissions by the Town of Brighton, especially the uninsulated original Town Hall building. Building to LEED standards can save 5 to 30% of the current energy and greenhouse gas emissions.

> *A recent survey revealed that...nearly 9 in 10 cities surveyed will require city capital projects to achieve green building standards; 56% have a policy in place, and 31% anticipate adopting one within a year (U.S. Conference of Mayors).*

Details Any buildings newly converted, leased, or significantly renovated by the Town of Brighton should be designed and built to LEED standards. Components of this effort should include the following:

- An environmental engineering study should be commissioned to lay out the appropriate design approach.
- Significant design considerations should include insulation, windows, passive or active solar, geothermal, or other alternative energy sources.
- Internal and external lighting should be of the most energy efficient types, and should be automatically turned off or down when not in use and at night.
- Building heating and cooling should be seasonally controlled to minimize energy consumption while maintaining reasonable comfort levels.
- The use of personal space heaters, fans, and air conditioners should not be permitted in Town buildings.
- Recommendations should be drawn from the 2008 NYPA Report for the Town of Brighton as appropriate.

Implementation An immediate engineering study should be commissioned by the Town, with follow-up when building or renovation occurs.

2.6 Operate Town buildings to maximize efficiency

Background Building energy and water consumption is one of the major uses of energy and water by the Town of Brighton. Significant reductions in energy consumption could be realized simply through improved operations.

Details Energy use and greenhouse gas emissions can be significantly reduced in the existing buildings of the Town of Brighton. The engineering study called for in Recommendation 2.5, along with the 2008 NYPA Report for the Town of Brighton, will provide most of the detailed recommendations.

1. Internal and external lighting should be of the most energy efficient types, and should be automatically turned off or down when not in use and at night.
2. Building heating and cooling should be seasonally controlled to minimize energy consumption while maintaining reasonable comfort levels.
3. Computers, printers, copiers and other appliances should be Energy Star certified, and be unplugged or on a power strip that gets turned off when not in use.
4. Copiers should be set to "auto-duplex" to reduce paper use.
5. The use of personal space heaters, fans, and air conditioners should be discouraged in Town buildings.
6. Water usage in Town facilities should be reduced. This should include aggressive repair of leaks, limiting outdoor use of potable water, and installation of aerators on all faucets and showers, installation of low-flow toilets and waterless urinals.

Implementation Immediate.

3 Support Walkability and Alternative Transportation

3.1 Consider amendments to off-street parking regulations

Background Over 1.7 million vehicle miles are traveled in the town of Brighton every day. Encouraging alternatives to the use of automobiles will reduce both energy use and pollution, and (in the case of pedestrian and bicycling measures) will improve public health. These measures can provide that encouragement, without unduly burdening new development and redevelopment.

Details Regulatory amendments would empower the Planning Board to impose reasonable conditions to facilitate alternative transportation. Specific actions include:

1. Providing for an identified percentage of off-street parking spaces to be available for bicycle parking and storage;
2. Requiring safe pedestrian connections from public sidewalks to major building entrances;
3. Maximizing interior pedestrian circulation and pedestrian safety within off-street parking areas; and

4. Providing dedicated spaces for hybrid vehicles, carpool vehicles, scooters, and motorcycles in close proximity to the destination.

Implementation Near-term.

3.2 Consider regulatory amendments to require sidewalk construction

Background The existence of a connected network of sidewalks enables pedestrians to travel safely along roadways. They are also an important factor in handicapped accessibility. Encouraging alternatives to the use of automobiles will reduce both energy use and pollution, and will improve public health by encouraging physical activity.

Details Code amendments would empower the Planning Board to require the construction of sidewalks on public streets as a part of all new residential and commercial developments.

Implementation Near-term.

3.3 Facilitate local access to public transportation

Background RGRTA has a study underway for possible suburban transfer sites throughout the region. Town staff should work with RGRTA to investigate the feasibility of such a center in the 12-Corners area. A transfer station encourages bus ridership by making it more comfortable and less confusing. The transfer station would provide a central location for riders to wait when transferring buses, with protection from inclement weather, and it would provide more information about the schedule of buses.

25 to 33% of potential buyers prefer infill, mixed-use, and transit-oriented neighborhoods, and this demand is expected to grow as the population ages (Ewing et al., 2007).

Details Investigate, in conjunction with the RGRTA, the establishment of a satellite transfer center in the 12 Corners area.

Implementation Near-term.

3.4 Support programs that encourage alternative transportation

Background Brighton's position as a first-ring suburb, and the resulting proximity of residents' homes and workplaces, means that it is an ideal community for bicycling and other forms of alternative transportation.

Details Recommended actions include the following:

- Establishing a bicycling committee to identify barriers to bicycling (such as lack of bike racks) and working to minimize them;
- Working with the Comprehensive Plan Update steering committee to develop recommended bicycle routes and trailways;
- Continuing to sponsor an annual Curb Your Car week; and
- Identifying potential park-and-ride lots within the community and developing educational programs to encourage their use.

These actions improve facilities and provide information to residents about how and why they can take advantage of alternative transportation. They also facilitate behavior change. Sponsors of similar programs in other communities have found that many citizens often continue the actions they take even on a single day.

Implementation Immediate and ongoing. These programs may be jointly sponsored by the municipal Sustainability Oversight Committee and the Environmental Action Committee.

4 Reduce Energy Used by Town Vehicles

Background Brighton's vehicle fleet is responsible for the largest share of greenhouse gas emissions of any Town operational category, accounting for over 1000 tons of carbon dioxide annually. Guidelines for reductions to this impact cover the following three areas:

- Vehicle Replacement: Choosing fleet vehicles with environmental impact in mind.
- Available Automotive Technologies: Considering which emerging technologies can be used to reduce the impact of the fleet on the environment.
- Conservation/Usage Measures: Paying attention to the environmental impact of fleet size vs town needs, idling time, and vehicle usage.

As vehicles in the town's current fleet age, more environmentally friendly vehicles are becoming available on the automotive market for both standard passenger cars and more specialized applications. Choosing replacements for town vehicles as they approach end-of-service with environmental impact as a major consideration is the single most effective way to reduce the greenhouse gas impact of Brighton's fleet. Usage measures such as reducing unnecessary idling time and encouraging carpooling when practical are also significant steps to reduce the fleet's environmental impact. Some of these measures are widely in practice by Town employees; others will require some training.

Recommendations and target emissions reductions were developed in part through an assessment of the current fleet and evaluation of vehicles budgeted for replacement in the 2008-2011 budgets. Special thanks and credit for these findings is due to the staff at the Center for Integrated Manufacturing Studies at RIT who researched and reported on Brighton's fleet and available vehicle alternatives.

In total, analysis suggests a 4% reduction in fleet CO_2 equivalent emissions could be realized by the end of 2009, 8% by the end of 2011, and 15% over a 5-year period if the recommended guidelines are followed.

4.1 Evaluate vehicle purchases as part of the annual Capital Improvement Program

Details It is recommended that oversight of Town vehicle replacements be performed as part of the "Environmental Assessment" in the Capital Improvement Plan process, which is part of the annual budget process. This assessment should include review of the following criteria:

1. Understanding of required functionality of the vehicle being replaced;
2. Determination of viable vehicle technologies (see "Fuel and Vehicle Technology Choices" below);
3. Fuel economy comparison of suitable vehicle options; and
4. Cost (of vehicle purchase, maintenance, and fuel over vehicle life).

Implementation Immediate. The Green Brighton Steering Committee met with the Town Finance Director to discuss environmental purchasing opportunities in the 2009 budget.

4.2 Continually review and revise vehicle guidelines

Details As viable vehicle technologies are changing, it is recommended that the "Fuel and Vehicle Technology Choices" guidelines be reviewed and revised annually. The 2008 guidelines are provided in Appendix A.

Implementation Immediate and ongoing.

4.3 Encourage and enforce best transportation practices

Details It is recommended that fuel conservation and efficient usage measures be encouraged and enforced when possible, including the following:

1. Adherence to the recently adopted town vehicle idling policy.
2. Carpooling on town business when practical.

3. Use of the most fuel-efficient options for town business (i.e., inefficient specialty vehicles should be used only for their intended purpose, and more efficient vehicles should be used for employee transport).

4. Annual review of fleet utilization versus town needs.

On-board vehicle monitoring should be used on a limited trial basis to understand vehicle usage patterns and identify opportunities for improvement.

Implementation Near-term.

4.4 Evaluate alternatives to current mode of yard waste pick-up

Background The Town's regular pick-up of yard waste is highly valued by the community. It also plays a role in public safety by ensuring that the roads are clear of yard debris. However, it is possible that during the peak summer months, when yard waste is at a minimum, the frequency of pick-ups could be reduced with minimal impact. Vehicle energy consumption is a major use of energy by the Town of Brighton.

Details To reduce Town energy use and greenhouse gas emissions, Town operations, especially involving heavy vehicles, should be revised where necessary. Examples include the following:

1. Weekly garden trash pick-up may be reduced to once or twice monthly during the slow summer months. More streamlined and energy-efficient equipment and methods for carrying out this operation should be studied (e.g., individual phone or online requests for pick-ups).

2. Tree trimming debris pick-up may be delayed by a half-day or a day after the trimming operation to avoid equipment idling while the trimming operation is completed. This should allow a more efficient pick-up schedule.

3. Use of heavy vehicles for commuting to a job site should be discouraged.

Implementation Immediate.

5 Create More Efficient Exterior Lighting in the Public Realm

5.1 Convert streetlights to more efficient fixtures

Background In 2005, street lighting added 485 tons of carbon dioxide to the atmosphere and cost the Town of Brighton approximately $402,000 per year, of which $351,000 was attributable to energy consumption costs. Due to a variety of factors, many of the street lights in the Town

of Brighton are less efficient than other available fixtures. Two more efficient technologies, high pressure sodium and metal halide, are currently available through RG&E and could be used to replace the less efficient lamps. In addition, new technology, such as induction or LED street lighting, is beginning to emerge. Taking advantage of these opportunities could produce both cost savings and carbon footprint reductions.

Details

1. Replace all mercury vapor lamps with high pressure sodium or metal halide lamps as the existing lamps fail. If other high-efficiency lamps, such as LED lamps, become available, are suitable for the application, and are on the tariff schedule, such high efficiency lamps should also be considered before failure of the mercury vapor lamps.

   There are currently about 100 mercury vapor street lamps in service in Brighton. Regulations already require that these lamps be replaced with an alternative lamp when they fail. Of the lamps currently available through the tariff, high pressure sodium and metal halide lamps are the most efficient.

   Implementation Immediate and ongoing.

2. Replace all incandescent lamps with high pressure sodium or metal halide lamps. For harp fixture lamps, continue working with the Historic Preservation Commission on this issue. There are currently about 875 incandescent street lamps in service in Brighton. Due to the poor efficiency of these lamps, they should be replaced with high pressure sodium, metal halide, and/or LED lamps pending the outcome of the following two items.

   Implementation Near-term.

3. Conduct side-by-side testing of a variety of higher efficiency lighting options such as LED, metal halide, high pressure sodium, and QL induction lamps as feasible and as the current lighting system permits in the Town Hall parking lot. Side-by-side testing of these technologies in a controlled environment would allow both efficiency assessment and resident input regarding aesthetics of each lighting technology.

   Implementation Near-term.

4. Work with other towns in the Rochester area and RG&E to influence the Public Service Commission to add high efficiency/low carbon footprint lamps such as LED and QL induction (fluorescent) lamps to the tariff.

   The current tariff from which Brighton may choose street lamp options is limited and does not take into account recent technological advances. Such advances may provide

significant cost savings and carbon footprint reduction associated with the ongoing use of street lighting.

Implementation Mid-term.

5.2 Consider Town Code amendments to restrict exterior commercial lighting

Background Certain exterior lights are excessive from a public safety viewpoint, contribute to light pollution, and use unnecessarily high amounts of energy. These measures are intended to reduce energy usage by restricting the demand for exterior lighting. Requiring the use of high-efficiency fixtures could also be considered to reduce energy demands. Further, these measures will minimize light trespass from the site and reduce impacts on nocturnal environments.

Details Specific actions include:

1. Setting maximum lighting levels (per the Illuminating Engineering Society);
2. Restricting the visibility of the light source at the road or property line; and
3. Defining the prohibited level of light spill (the lighting level at the property line).

Implementation Near-term or mid-term.

6 Create a Culture of Conservation in Town Government

6.1 Develop a green purchasing program

Background U.S. state and local governments spend $30 to $40 billion a year on energy-consuming products and equipment. By ensuring that these products are energy efficient, governments can reduce their energy bills while also cutting pollution from electricity generation. One way to ensure that appliances are energy efficient is by using the Energy Star standard. Energy Star is a voluntary labeling partnership between the U.S. EPA and industry, certifying and promoting energy-efficient products. The Energy Star label makes it easy to identify products that save money and prevent pollution, and Energy Star products are available from almost all manufacturers at the same cost as more energy-intensive models. Each Energy Star office product saves $15 to $25 per year in energy costs.

Details The Town has an obligation to consider both fiscal responsibility and environmental responsibility. Choosing green products does not need to be more expensive, particularly if purchases are subject to cost-benefit analysis that looks at the lifetime costs of an item and if

purchasing guidelines are accompanied with usage guidelines. Specific components of a green purchasing program could include the following:

1. Developing specifications for equipment that include Energy Star standards;
2. Where possible, selecting products that are environmentally preferable;
3. Developing resource use guidelines for Town operations so that purchase of more expensive products (such as higher-content recycled paper) can be cost-neutral; and
4. Monitoring the State of New York's purchasing guidelines and using the most environmentally responsible guidelines available.

Implementation Near-term. Many other communities have implemented similar purchasing guidelines, so the Town should be able to replicate existing policies. Two valuable resources are `www.epa.gov/appdstar/purchasing` and `www.magnet.state.ma.us/osd/enviro/enviro.htm`

6.2 Develop and support a program of environmental best practices among Town staff

Details

1. Requiring and providing support for paper, plastic, and glass recycling in government facilities;
2. Establishing guidelines for turning off all appliances and lights when not in use;
3. Enabling power-saving options on all appliances;
4. Establishing guidelines for reduction in paper use, including two-sided copying, reuse of single-sided paper for internal documents, and using default settings to minimize waste (margins, font size, etc.);
5. Establishing a mechanism for communicating these guidelines to all current and future staff; and
6. Providing appropriate training to relevant Town staff on best environmental practices.

Implementation Near-term priority. The Supervisor shall draft a memo outlining waste reduction and recycling guidelines.

6.3 Ensure adequate Town recycling facilities

Background One of the most visible methods of advertising Brighton's environmental policies to Town residents and visitors is to make recycling easy and obvious. Recycling is the law in Monroe County. A recycling container is the best billboard for this message.

Details All facilities of the Town of Brighton should be equipped with appropriate collection containers for all of the recyclable materials mandated by Monroe County. These containers should be placed not only inside the Town Buildings, but also outside at locations to include all Town parks, playgrounds, parking lots, the 12 Corners triangle, entrances to Town buildings, etc. These containers should be labeled "BRIGHTON RECYCLES" with a list or pictograph of what is recyclable and what is trash. One of these containers should be located next to each trash barrel maintained by the Town. The Town should arrange for collection and recycling of the contents of these containers on an ongoing basis.

Implementation Immediate.

7 Create a Culture of Conservation in the Community

7.1 Establish and support an Environmental Action Committee

Background The Color Brighton Green campaign had a successful first year with outreach and education. The schedule of key events included a kick-off for the 10% Challenge in January, and a Green Energy Fair and a Curb Your Car week in May. Publicity for the events occurred through Town newsletters and press releases and was well-received in the public media. As of June 2008, 290 households and 16 businesses have taken the 10% Challenge. Over 380 individuals took the Curb Your Car pledge.

Details This committee would continue and build on the programs introduced by the Green Brighton Education Committee under the auspices of the "Color Brighton Green" campaign. The two main goals of the committee are education and engagement: to educate the community about the how and why of energy conservation and alternative energy, and to provide programs that motivate individuals and organizations to engage themselves in these efforts.

One benefit of having an independent committee is that the organization could support the efforts of the town without being restricted by municipal limitations on fundraising and political related activities. The Town government should strongly consider providing funding for professional staff for the organization.

Responsibilities of the committee may include, but are not limited to, the following:

- Organizing annual events such as the Green Energy Fair and Curb Your Car Week;
- Identifying and supporting additional education and engagement events, including sustainability roundtables for sectors of the community such as businesses and faith institutions;
- Working with the Sustainability Oversight Committee to publicize and support their needs;

- Networking with and providing support for citizen efforts in other communities;
- Providing ongoing outreach and support for the 10% Challenge;
- Maintaining the website, `www.ColorBrightonGreen.org`;
- Providing financial and in-kind support for town sustainability activities, where possible; and
- If desired, expanding the audience for the 10% Challenge and educational events to other communities.

Implementation Immediate. A subcommittee of the Green Brighton Education Committee is working currently to create an independent entity to carry on the work started by the Green Brighton Education Subcommittee. Representatives from the Town government should play a leadership role in initiating and facilitating the creation of the organization.

7.2 Support green efforts in the schools

Background The definition of sustainability centers on the responsibility to use resources today to protect their existence for future generations. Today's students are tomorrow's leaders, and they are the ones who will feel most directly the impacts of the resource choices we make today. They should be included in educational and engagement activities occurring in the broader community.

Many of Brighton's schools are already acting to reduce their energy use and costs. The Brighton Central School District took the 10% Challenge and is having ongoing discussion about its implications and how to incorporate environmental concerns in its *2020 Vision*. The Harley School has begun a composting program and organic garden and is investigating on-campus renewable energy generation. Our Lady of Mercy sponsored a creek clean-up as part of Earth Day activities. These are only a few examples of the interest and openness demonstrated by the schools toward environmental responsibility.

Green schools add 2% to construction costs but result in financial benefits worth 20 times as much (Kats, 2006).

Details The Environmental Action Committee should work with the schools to advance sustainability education and action. The schools are independent from the Town government, but they are a public face of the community and strongly identified with the Town.

Recommended actions include, but are not limited to, the following:

- Sponsoring an annual Environmental Leadership Summit, bringing together high school students from all public and private high schools in Brighton;
- Networking between buildings and schools to identify efficiency and/or conservation opportunities in school operations;

- Providing support for teachers interested in sustainability education;
- Providing support for student organizations working on sustainability-related issues; and
- Supporting existing efforts in the school district, such as "Walk to School Day" in the fall and Earth Day activities in the spring.

Implementation Immediate and ongoing.

7.3 Support green efforts in the community

Background The non-governmental part of the Brighton community uses more than 90% of the energy resources in the Town. Both the municipal Sustainability Oversight Committee and the independent Environmental Action Committee should work to support and expand green efforts in the community.

Details Partnering with the schools is one example of public-private collaboration that carries community-wide benefits. Other possible partners include the following:

1. Faith institutions;
2. Service organizations (Rotary, Kiwanis) and other voluntary groups; and
3. Neighborhood and other informal organizations.

Supporting actions might include pointing to informational resources; helping organize sector-specific roundtables, guest speakers, or symposia; or sharing information between groups working toward similar goals.

Implementation Immediate and ongoing.

8 Encourage Green Business Development and Green Business Practices

8.1 Maintain Town support for the Brighton Farmer's Market

The Brighton Farmer's Market opened on June 1, 2008 on the grounds of Brighton High School. It provides an opportunity for local selling and purchasing, reducing the energy needed to transport products to consumers. It also helps build upon Brighton's sense of community. Its central location was chosen to facilitate bicycling and walking, and many customers have been seen traveling by these alternative means.

8.2 Support Green Business Development

Green business development takes two forms: the encouragement of green practices in all businesses, and support for businesses engaged in the environmental sector. Two components of support for green business development are support for the Green Business Award and providing venues to educate the public about green products and services available in the Brighton community.

The Green Business Award The Chamber of Commerce, in conjunction with the Green Brighton Task Force, awarded the first Green Business Award to the Twelve Corners Mobil station in May 2008. The creation of the Green Business Award serves two goals: to recognize the accomplishments of businesses in reducing their environmental impact, and to share the experiences of businesses with each other in reducing their impact in an economically viable way. The Town should continue to work with the Chamber to publicize and support this annual award.

Educating the public about green products and services Many citizens seeking to reduce their fossil-fuel energy use and carbon footprint are looking for more information on the advantages and disadvantages of different alternative-fuel or more efficient technologies. One goal of the educational events sponsored by the Task Force this year was to connect these interested citizens with local vendors or service providers. The 10% Challenge kick-off and, to a larger extent, the Green Energy Fair, provided a forum for information exchange between businesses and potential customers. The hosting of events similar to this by the Environmental Action Committee will provide ongoing support for businesses engaged in green technologies.

9 Reduce Storm Water Runoff and Improve Quality

Brighton is already a leader in efforts to reduce storm water runoff and improve storm water quality, thanks largely to the efforts of the Town Engineer. The Task Force recognizes the importance of these efforts, applauds his work in this area, and supports ongoing leadership in this area, through the current Town Engineer's tenure and beyond.

Community Ideas

Recent conversations with community members have introduced a number of ideas for action that were not addressed by the committees of the Green Brighton Task Force. They are listed here, with the suggestion that they be investigated by either the municipal or community organizations that follow up on the recommendations of this report.

- Investigate ways of discouraging use of plastic shopping bags and promoting recycling of such bags in local businesses.

- Investigate establishing a community farm on Town-owned land.

Looking Forward: The Challenges

- Experience suggests that personal contact is effective in getting people involved with green efforts. Media contact is less effective. Better ways to make personal contacts need to be identified and put in place.
- Businesses seem to readily adapt to the idea of selling more green products, but green business practices can be far more difficult to establish. This is a challenge not yet addressed.
- More study is clearly needed in these areas to determine the appropriate roles of government, businesses, and private citizens.

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Appendix A: Results of the NYPA Energy Audit

Energy Conservation Measure	Estimated Electrical Savings	Estimated kWh Saved	Estimated Fuel Savings	Estimated Measure Savings	Estimated Measure Cost	Payback Period (Years)
Lighting modifications	$7,228	80,306	$0	$7,228	$62,664	8.7
Town Hall Steam Boiler & Hot Water Loop Control	$0	0	$1,337	$1,337	$6,300	4.7
Library Multi-zone AHU VFD	$984	10,938	$0	$984	$4,900	5.0
Public Safety Secondary Hot Water Pump VFDs	$683	7,591	$0	$683	$3,640	5.3
Public Safety Hot Water Piping Insulation	$0	0	$299	$299	$840	2.8
Town Hall Unoccupied Temperate Setback	$0	0	$1,407	$1,407	$3,360	2.4
Vending Machine Power Management	$480	5,333	$0	$480	$665	1.4
Door Seals	$0	0	$211	$211	$420	2.0
Town Hall Windows	$0	0	$286	$286	$61,600	215.1
Public Safety Garage Ceiling Fans	$320	3,560	$0	$320	$1,260	3.9
TOTAL	**$9,695**	**107,728**	**$3,540**	**$13,236**	**$145,649**	**11.0**

Appendix C: Fuel and Vehicle Technology Choices: 2008 Guidelines

The following recommendations were made based on the total lifecycle impact of the technologies listed, and are relevant to the current automotive market. As new options are developed and become viable, these guidelines should be revisited and revised.

1. Hybrid vehicles (when available with the required functions and capabilities) are the most environmentally friendly choice available on today's market. Some of the available hybrids are more efficient than others, so it is worthwhile to compare benefits between them when choosing a hybrid. For most hybrids on the market today, the payback period using projected fuel costs makes them attractive.

2. There remains very good opportunity for fleet CO2 improvement with internal-combustion gas and diesel engines by simply elevating the priority of fuel economy when choosing replacements for town vehicles. In many cases a more fuel efficient alternative provides a cost benefit over the life of the vehicle.

3. Fully electric passenger and utility vehicles from several sources are currently available and provide a significant environmental improvement, but their use is limited to strictly local and low speed (typically less than 45 mph), non-highway applications. Limited distribution and low-volume production can make these relatively expensive options at this juncture.

4. Current flexible fuel (ethanol) and biodiesel fuels made from petroleum-intensive corn and soy feedstock, while having low cost and wide availability, do not provide sufficient or significant life cycle greenhouse gas improvement to warrant their consideration for environmental purposes. If and when a reliable supply of ethanol from other sources (such as switchgrass or algae) or biodiesel made from recycled oil becomes available, these options will merit strong consideration as environmentally friendly options. There may be a cost benefit to flexible fuel vehicles if future ethanol prices drop sufficiently below that of gasoline to offset the slight mileage penalty that comes with using flex fuel.

5. Other developing vehicle technologies, such as fuel cell, compressed air, and fully electric vehicles for highway use are not yet ready for use in their own rights or in regard to the infrastructure needed to support them at this time.

It is recommended that as the above options mature and more environmentally friendly vehicles become available on the market, they be given consideration for town use if they meet functional and budget requirements, and the infrastructure they require (e.g.- fuel supply, maintenance, spare parts) is readily available and reliable.