

Gateway National Recreation Area Headquarters  
 Staten Island, New York  
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# CLIMATE FRIENDLY PARKS FRAMEWORK FOR LOCAL ACTION PLANNING

Produced by the NPS Environmental Leadership Program, with technical assistance from EPA's Global Change Information Branch and NPS's Natural Resources Stewardship and Science Division.

This Document Reports the Accomplishments of Gateway National Recreation Area (NRA) staff who participated in NPS's first Climate Friendly Parks Workshop in June 2003. Gateway staff developed the following Framework for Local Action Planning, which outlines park-wide goals and strategies to reduce greenhouse gas emissions. The approaches provided in the Framework are intended to serve as an example for each of Gateway NRA's three management units when they devise unit-specific strategies for meeting park-wide goals. The Framework proposes reducing greenhouse gases through increased awareness about climate change and management of transportation, buildings and facilities, grounds and lands, and waste.

## The Challenge of Climate Change

CLIMATE CHANGE PRESENTS SIGNIFICANT RISKS AND CHALLENGES TO THE NATIONAL Parks System. Imagine Glacier National Park without any glaciers, or



*Fort Wadsworth, one of the oldest military sites in the United States, is a main attraction on the grounds of Gateway NRA's Headquarters.*

vast sections of the freshwater Everglades submerged by rising seas. Imagine large-scale transformations of forested landscapes as some tree species shift their

ranges northward and others move in to take their place. These scenarios are all potential consequences of future climate change, identified by scientists in published studies.

Climate change also could benefit some parks, bringing longer seasons for camping and other temperate-weather pursuits, providing longer growing seasons for many plants, and improving conditions for species at the northern limits of their range.

In the Gateway region, temperatures already have risen by 2°F during the past 100 years. Future climate change is likely to bring still

warmer temperatures, along with increases in sea level that may threaten coastal wetlands and lead to higher storm surges. Sea-level around New York City currently is rising by about a tenth of an inch per year, and the rising tide already may be contributing to the deterioration of salt marshes in Jamaica Bay.

The main risk to coastal areas comes from increased flooding when storm surges are superimposed on higher sea levels. Beach erosion also is expected to increase as the sea rises. If future projections of climate change and sea level rise prove accurate, the Gateway

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region could suffer severe losses of its remaining salt marshes and other coastal wetlands toward the end of this century.

Uncertainty about the severity of future climate change and its impacts is one of the most challenging aspects of the problem, making it difficult to plan adaptation strategies. The current warming trend is real, however, and suggests that risk of climate change should be taken seriously. Average global temperatures at the Earth's surface have increased about 1.1°F since the late 19th century, and the 10 warmest years in the 20<sup>th</sup> century all occurred in the last 15 years. Snow cover in the northern hemisphere, floating ice in the Arctic Ocean, and the areas covered by mountain glaciers have all decreased. Globally, sea level has risen 4-8 inches during the past century. Precipitation increased by 0.5 to 1 percent per decade in the 20<sup>th</sup> century over most mid- and high latitudes of the northern hemisphere, and there was a 2-4 percent increase in the frequency of heavy precipitation events.

Natural variability may have played a role in these trends, but many scientists believe that a significant portion of the change has been

caused by humans. Human activities are creating a buildup of greenhouse gases in the atmosphere—primarily carbon dioxide, methane, and nitrous oxide—which trap heat that otherwise would be released to space. The current warming trend is consistent with changes that would be expected from the increase in greenhouse gases.

Many scientists believe that the continued addition of carbon dioxide and other greenhouse gases to the atmosphere is likely to raise the Earth's average temperature more rapidly in the next century. The 35 emissions scenarios developed by the United Nations Intergovernmental Panel on Climate Change yield a projected range of warming of 2.4-10.4°F for the next century. Studies that consider probabilities generally suggest that a global average warming of 4-7°F is most likely. Rising global temperatures are expected to further raise sea level and change precipitation and other local climate conditions. Changing regional climate could alter forests, crop yields, and water supplies in both positive and negative ways. It also could affect human health conditions, alter many animal habitats, and affect a variety of ecosystems.

## ABOUT GATEWAY

Headquartered in Staten Island, New York, Gateway National Recreation Area covers more than 26,000 acres throughout the eastern shore of three boroughs of New York City extending to Sandy Hook, New Jersey. With a staff of about 225 people, Gateway hosts approximately 10.2 million visitors per year, largely residents of the local community. Gateway is managed in three units: Jamaica Bay, Staten Island, and Sandy Hook.

The Jamaica Bay Unit covers thousands of acres in the boroughs of Brooklyn and Queens. Encompassing Jamaica Bay, the unit contains historical attractions such as Floyd Bennett Field, New York City's first municipal airport. Members of the local community are likely to visit Jamaica Bay for its sprawling beaches, recreational sporting facilities, or to birdwatch, fish, or hike. The islands in Jamaica Bay are part of the Jamaica Bay Wildlife refuge—one of the largest bird sanctuaries in the northeastern United States.

Gateway's Staten Island Unit is composed of three sites situated on the east coast of the island: Fort Wadsworth, Miller Field, and Great Kills Park. Interspersed along five miles, the sites provide historical and recreational attractions in a bayside setting. Fort Wadsworth offers ranger-lead tours of one of the oldest military sites in the United States. Miller Field hosts swarms of young soccer players daily for competitive league tournaments and practices. Great Kills park encloses a small harbor containing publicly accessible boat slips and provides an opportunity for island residents to swim, fish, jog, and hike.

The Sandy Hook Unit protects six miles of beautiful ocean beaches along the New Jersey Shore. Historical attractions at Sandy Hook include the oldest lighthouse in the nation—dating back to 1764—which is still an active aid to navigation. Fort Hancock, a complex of more than 100 buildings and 12 gun batteries, is another historic asset of the site.

# Greenhouse Gas Emissions at Gateway

NATURALLY OCCURRING GREENHOUSE GASES (GHGs) INCLUDE CARBON DIOXIDE (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and water vapor. Human activities (e.g., fuel combustion in stationary and mobile sources, agriculture, and waste generation) lead to increased concentrations of these gases in the atmosphere. In addition, there are other more powerful GHGs—hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>)—called high-global warming potential (high-GWP) gases that are created in smaller quantities by various industrial processes such as aluminum, iron, and steel production.

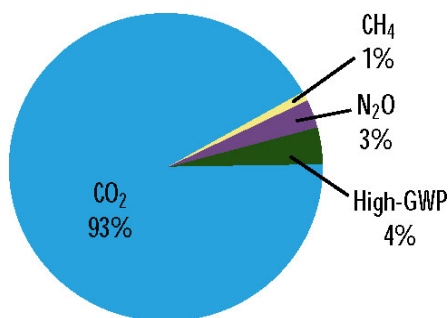
Gateway NRA’s inventory of greenhouse gases was the first ever done for a national park and included estimates of emissions from activities directly attributable to park operations (e.g., stationary combustion, mobile combustion, refrigeration, fertilizer application). The inventory also included “indirect” emissions, or emissions from sources that are not directly within the park’s control, but over which the park has some influence (e.g., purchased electricity, visitor vehicle emissions, waste management). Consideration of these indirect emissions both expands the park’s portfolio of possible emission reduction actions and enables the park to work with its electricity providers, waste haulers, and visitors to reduce park-related emissions occurring outside park boundaries.

The sources included in Gateway’s inventory were based on (1) whether the activity occurred at the park; (2) whether emissions from each source were significant enough to warrant substantial data collection and emission estimation efforts; and (3) whether data were available for collection.

The GHG sources reported in Gateway’s inventory include:

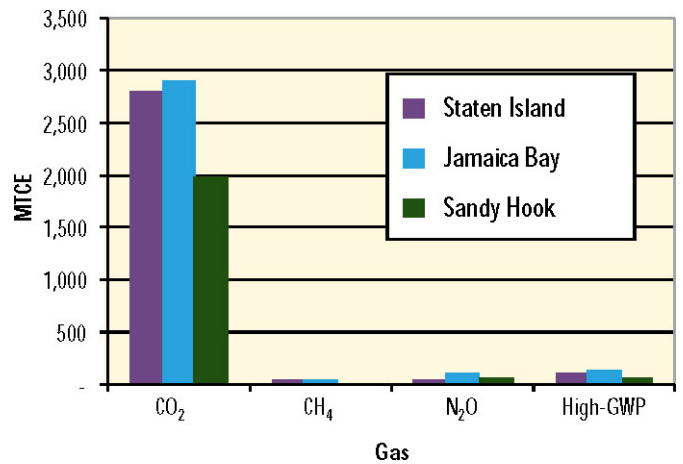
- Carbon Dioxide (CO<sub>2</sub>) from fossil fuel combustion
  - direct combustion (including stationary and mobile)

**Figure 1**  
*Gateway GHG Emissions by Gas*



- indirect – purchased electricity
- (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) from stationary combustion
- CH<sub>4</sub> and N<sub>2</sub>O from mobile combustion
  - highway vehicles
  - non-road vehicles
- High-GWP gases from refrigeration and air conditioning
  - stationary refrigeration and air conditioning
  - motor vehicle air conditioning

**Figure 2**  
*Gateway GHG Emissions by Gas and Park Unit*



- N<sub>2</sub>O from agricultural soil management (fertilizer use)
- CH<sub>4</sub> and N<sub>2</sub>O from waste management
  - landfills
  - wastewater treatment

CO<sub>2</sub> from fossil fuel combustion accounted for the greatest portion of GHG emissions at Gateway (92.9 percent), followed by emissions of HFCs from motor vehicle air conditioning (3.5 percent), and CH<sub>4</sub> and N<sub>2</sub>O emissions from mobile combustion (1.6 percent) (see Figure 1).

As shown in Figure 2, CO<sub>2</sub> accounted for the vast majority of GHG emissions from Gateway, as it does in virtually all state and national GHG emission inventories.

In addition, the Staten Island and the Jamaica Bay units accounted for roughly equal portions of total GHG emissions from the Gateway units. Jamaica Bay had slightly higher emissions of CH<sub>4</sub>, N<sub>2</sub>O, and high-GWP gases than the other units. Sandy Hook accounted for the smallest share of GHG emissions among the park units.

# How Gateway is Responding to Climate Change

RECOGNIZING THE SIGNIFICANCE OF CLIMATE CHANGE and its potential effects on the sustainability of their park and public lands in general, Gateway National Recreation Area hosted the first Climate Friendly Parks Workshop in June 2003. The Climate Friendly Parks Workshop was the first of the National Park Service's (NPS) Greening Workshops to specifically address climate change. With the assistance of NPS Headquarters and the U.S. Environmental Protection Agency's (EPA) Global Change Information Branch, and as a part of NPS's Green Parks Partnership Program, workshop participants proposed ways to reduce in-park greenhouse gas (GHG) emissions by reducing the park's consumption of energy, fuel, and resources in four sectors: transportation, buildings and

facilities management, grounds and lands management, and waste management. Workshop participants also outlined long-term plans to increase climate change awareness through both internal and external outreach and education programs.

Workshop participants at Gateway included Gateway NPS staff, their supervisors, and some concessionaires. This Framework for Local Action Planning reflects the participants' vision of how Gateway NRA could evolve into a climate friendly park over the next five years. Their hope is for Gateway NRA to achieve an energy-, resource-, and fuel-efficient status that will move them into an environmental leadership role in NPS and in the New York harbor area.

## GATEWAY VISION ELEMENTS FOR CLIMATE CHANGE/SUSTAINABILITY

At Gateway's Climate Friendly Parks Workshop, participants developed the following vision of the future for the park:

Gateway will achieve environmental leadership among national parks (and beyond the park system to other agencies, state governments, the private sector and internationally). It will become a model of environmental innovation. Gateway will do this by taking a systemic approach to combat climate change, by opportunistically trying and testing new approaches to reducing cost and resource use, and by addressing the full life-cycle of environmental impact across all media.

## Strategy 1: Increase Climate Change Awareness

CLIMATE CHANGE IS A COMPLEX ISSUE, OFTEN IGNORED AND minimally understood by the public. With a thorough understanding of the benefits of reducing greenhouse gas emissions in the park, Gateway staff could serve as planners for the park's climate change efforts, and as interpreters and educators of the issue for the public.

### Develop an internal education program for Gateway staff and tenants.

Through a mentor-based initiative, Gateway will implement practices that reduce greenhouse gases while educating staff about the climate friendly benefits of these activities.

### OUTREACH AND EDUCATION PLAN:

- Develop an internal education program for Gateway staff and tenants.
- Track progress of climate change programs at Gateway.
- Promote Gateway's model of sustainability to the local community.

The park plans to continually examine day-to-day activities of park staff to identify opportunities for reducing greenhouse gas emissions. As employees implement energy- and fuel-efficient practices, they will learn about the benefits of their actions from members of the Green Team who have volunteered to mentor their colleagues. Currently there is an active Green

Team in the Jamaica Bay unit of Gateway NRA; the team was established for the purpose of finding more environmentally conscious "green" ways to conduct park operations. A park Headquarters Green Team oversees such efforts throughout the entire park and advises unit

Green Teams. The components of the park’s Staff Mentoring Initiative are as follows:

- Provide the Green Team with materials, publications, and tools available from EPA and other agencies and organizations to mentor fellow staff about climate change;
- Incorporate climate change education tools into orientation for seasonal staff;
- Hold internal discussions and workshops to devise new strategies to continually reduce greenhouse gas emissions, distribute resources and tools to staff, and acknowledge success of current strategies; and
- Develop intranet pages to inform staff about climate friendly actions being taken throughout the park, encourage them to continue striving for more greenhouse gas emissions reductions and advise them on new ways to reduce GHG emissions. The latter can be handled through such efforts as procurement “green pages” that provide guidance for finding and purchasing environmentally friendly products.



### Track Progress of Climate Change Initiatives at Gateway

Gateway will devise new ways to reduce its greenhouse gas emissions, while continually recognizing programs at the park that are already taking climate change mitigation actions. In an effort to recognize, track, and develop interpretive programs about initiatives at Gateway that reduce greenhouse gas emissions, the park will design

### Exhibit 1

Sample tracking and planning matrix to be included in Gateway’s database of green initiatives.

GATEWAY RECREATION AREA CLIMATE CHANGE FRIENDLY PARKS INITIATIVE DRAFT WORK PLAN TEMPLATE FOR JAMAICA BAY					
Objective	Initiative	To Do's/Milestones	Lead	Timeline	Measure Of Success
Change purchasing habits of JBU employees to include consideration of products life cycle effects on climate change (Implement EPP- Environmentally Preferable Purchasing)	Staff Training/ Education	Create universal orientation to Gateway's green programs	Green Team	8 - 10 Months	100% of new JBU employees (include section on EPP) and 50% of current JBU employees have certificate of completion of "Gateway Greening Orientation" in personnel file.
		Provide Green Team with tools available through EPA to help train/educate staff on EPP.	KJ	6 Months	
		Have Green Team reps request an agenda item at each monthly staff meeting		Immediately	3 Brown Bag Lunch programs are conducted with a sustainability topic.
		Hold brown bag discussions on successes and strategies and distribute tools to staff	KJ	2 Months	50% of JBU's spending on supplies are in compliance with EPA's Comprehensive Procurement Guidelines
	Develop Guidance for Purchasing	Identify opportunities for climate friendly purchasing (e.g. increasing the recycled content of copy paper)	Green Team	4 Months	Green Purchasing Guidance binder has been created.
		Identify opportunities for reuse/sharing of products over purchase of new item.	Green Team	8 - 10 Months	100% of GPO orders specify use of paper consistent with established guidelines.
		Develop and publish office supply purchasing guidelines.	Green Team	6 Months	
		Develop guidance for paper specifications on Government	Green Team		10 - 12 Months Printing Office orders.

a database of green initiatives at Gateway and analyze their impacts and successes. The database can also serve as a planning tool and will include the objective of each initiative, the measures of success, appropriate tracking data such as milestones and timelines, and the name of the contact or lead for each program. A sample matrix is provided in Exhibit 1.

### Promote Gateway's Model of Sustainability to the Local Community

While reducing Gateway's greenhouse gas emissions is important, it represents only a fraction of Gateway's ability to help mitigate climate change. Gateway's role as a protector of natural resources in the New York metropolitan area lends the opportunity to increase climate change

awareness beyond the park's borders. By educating visitors and community stakeholders about climate change and how they can help reduce GHG emissions, Gateway can inspire greenhouse gas reductions that far surpass its own. Gateway will take the following steps to increase climate change awareness:

- Create and/or distribute previously produced information on climate change and its effects on national parks in general and on Gateway NRA in particular (e.g., during interpretive or school programs or in an educational kit, fact sheet, or brochure).
- Communicate with local communities, park visitors and local media about actions they can take to reduce GHG emissions. This could be done through interpretive and school programs using educational kits, wayside exhibits, posters, etc.

## Strategy 2: Reduce GHGs from Transportation Sources

AS THE LARGEST SOURCE OF GREENHOUSE GAS emissions at Gateway, transportation is integral to the park's climate change planning process. Transportation accounted for 71 percent of total CO<sub>2</sub> emissions at Gateway in 2001. The vast majority of mobile emissions (93 percent) resulted from visitor vehicles traveling throughout the park as shown in Figure 3. Gateway is

### TRANSPORTATION PLAN:

- Enable and promote alternative modes of transportation for visitors.
- Increase the use of lower-GHG emitting alternative fuels and alternative fueled or more efficient vehicles.
- Develop and integrated planning process for reducing vehicle miles traveled in Gateway Park operations.

therefore committed to educating park visitors about the effects of their transportation habits through outreach initiatives and demonstration projects that reduce greenhouse gas emissions from transportation throughout the park.

### Enable and Promote Alternative Modes of Transportation for Visitors

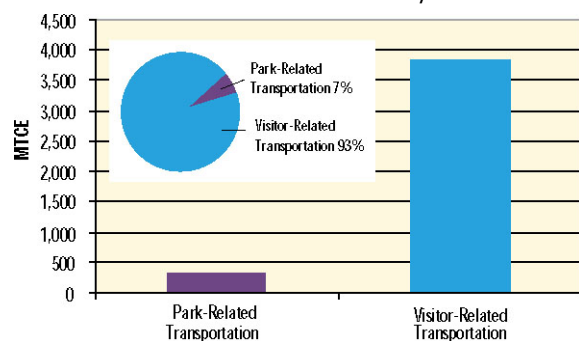
Gateway will promote alternative forms of trans-

portation that reduce vehicle miles traveled (VMT) within the park. Gateway's waterfront settings make the park a premier attraction for boating enthusiasts, and recreational boating already is a popular way to travel throughout the park. The park currently is working to employ a water shuttle system between park units, with a possible launch within the next year.

An intra-park water shuttle system—connecting not only the Gateway units, but all New York Harbor parks—could reduce VMT between park units while providing an opportunity to educate visitors about climate change and how public transportation can help

**Figure 3**

*Park-Related Versus Visitor-Related Transportation at Gateway*



to reduce GHG emissions. In addition, coordinating water shuttle docks with land-based public transportation would allow many visitors to travel to the parks without using their cars. As a result, the potential visitorship of people without access to private cars would increase. Steps to integrate water shuttle and climate change planning at the park are as follows:

- Research engine efficiency and employ the most efficient engine available in water shuttles;
- Develop outreach material (or select material from existing sources) explaining the connection between using public transportation and slowing climate change; and
- Develop a distribution plan for transportation outreach material.

A fun recreational activity with positive health benefits, cycling also is an environmentally friendly mode of transportation. Gateway plans to make cycling more convenient within park boundaries while educating visitors on its benefits. Steps to promote cycling are as follows:

- Define the process for permitting bicycle storage, such as distributing passes or assigning numbered slots for storage;
- Identify locations for bicycle storage within the park and procure bicycle racks;
- Invite concessionaires to offer bike rentals; and
- Create new bike paths where needed and maintain existing paths ensuring their safety for frequent use.

### Increase the Use of Lower GHG Emitting Alternate Fuels and Alternatively Fueled or More Fuel Efficient Vehicles

To reduce emissions and expose visitors to low-emissions technologies, Gateway will upgrade its existing fleet vehicles through the following steps:

- Evaluate options for retrofitting fleet to compressed natural gas (CNG);
- Replace aging fleet vehicles with hybrid vehicles.
- Evaluate the necessity of 4-wheel drive vehicles, which typically are less fuel-efficient than 2-wheel drive models; and
- Replace two-stroke engines with more-efficient four-stroke engines.



*Teleconferencing between the Jamaica Bay and Staten Island units could reduce VMT over the Verrazano Bridge, as seen above from Fort Wadsworth.*

### Develop an Integrated Planning Process for Reducing VMT in Gateway Park Operations

Since transportation is integral to all functions of the park, reducing VMT should be a consideration in both park development projects and daily park operations. Steps to reducing VMT that will be considered as Gateway develops transportation standards include:

- Use video- or tele-conferencing during meetings to reduce the need for transport between units. Incorporate transportation infrastructure during the building and facility planning process; and
- Expand opportunities for alternative public access to the various units in the park (e.g., public transportation to park assets, including a park-sponsored bus (shuttle) to the beach from the A train).

# Strategy 3: Reduce GHGs through Buildings and Facilities Management

In 2001, purchased electricity accounted for one-fourth of total carbon dioxide emissions at Gateway, making electricity consumption the second-most important source of greenhouse gas emissions from park operations. In order to reduce emissions from purchased electricity, Gateway will continually make energy efficiency a priority in building and facilities management decisions. In addition, almost one-fifth of total carbon dioxide emissions resulted from fossil fuel combustion from stationary sources; e.g., space and water heating equipment, generators, fuel storage tanks, fireplaces, and waste water treatment. Retrofitting HVAC systems and weatherizing buildings will play a role in reducing emissions from buildings and facilities.

## Conduct a Comprehensive Energy Audit

As a first step in reducing energy use and electricity consumption, Gateway will conduct a comprehensive energy audit to evaluate its current use and identify buildings or facilities in need of upgrades. The energy audit will consist of three phases:

- Install power meters in all structures;
- Collect data on fuel and electricity consumption, equipment hours of operation, and other parameters; and
- Analyze results and evaluate where fuel and electricity consumption could be reduced.

Data collected during the energy audit will serve as a baseline for improvement.

## BUILDINGS AND FACILITIES MANAGEMENT PLAN:

- Conduct a comprehensive energy audit.
- Retrofit building systems.
- Institutionalize LEED standards for all buildings.

## Retrofit Building Systems

Once it has identified energy inefficiencies, Gateway will work to retrofit equipment wherever possible. Some retrofits include:

- “Green” lighting systems;
- Efficient HVAC systems;
- Weatherized buildings: install proper insulation, etc.; and
- Streamlined contracting operations.

## Institutionalize LEED Standards For All Buildings

Recognizing that the U.S. Green Buildings Council’s Leadership in Energy and Environmental Design (LEED) standards provide a useful framework for energy efficiency, Gateway seeks to adopt these standards for all new building projects. The first step to institutionalizing these standards is to have at least one Gateway employee trained to become a LEED Certified Professional. The certified staff member will then ensure LEED quality is met.



*Gateway staff will work to make park buildings such as this one at Sandy Hook more energy efficient.*



# Strategy 4: Reduce GHGs through Grounds and Land Management

THE MANAGEMENT OF GROUNDS AND LAND OFFERS

THE opportunity for the park to reduce greenhouse gases from nonroad vehicles and equipment and conduct demonstration projects that provide valuable lessons to visitors and tenants. Alternative fueled mowing equipment and reductions in use of this equipment are examples of how grounds and land management technology can help reduce in-park greenhouse gas emissions.

## GROUND AND LAND MANAGEMENT PLAN:

- Assess mowing practices and equipment.
- Increase use of alternative fuels in grounds and maintenance practices.
- Improve use of land in parking lots.

## Increase the Use of Alternative Fuels in Grounds and Maintenance Practices

Gateway will evaluate the availability of biodiesel-fueled mowing equipment through the following steps:

- Assess and monitor fuel consumption of mowing equipment;
- Build partnerships with equipment manufacturers; and
- Replace gasoline-powered mowing equipment.

## Assess Mowing Practices and Equipment

The park can reduce GHG emissions by adjusting its mowing schedules, which also may improve habitat conditions for Gateway wildlife. Emissions can also be reduced by maintaining equipment in good working order. Steps to assessing mowing practices and equipment include:

- Identify park areas where habitat benefits accrue from limiting mowing;
- Perform regular maintenance checks on equipment;
- Assess grounds operations performed by contractors; and
- Incorporate policy guidelines into procurement process to enforce adherence to fuel-efficiency standards.

## Improve the Use of Land in Parking Lots

To set an example for the public, Gateway will consider parking lot designs that enhance vegetation. Unused lots will be considered as sites to plant trees, which sequester carbon dioxide.



*Floyd Bennett Field, one of New York City's first municipal airports, is a historical site at the Jamaica Bay Unit. Gateway staff will evaluate the field's mowing schedule.*

# Strategy 5: Reduce GHGs through Waste Management

REDUCING THE PARK'S WASTE STREAM and increasing recycling efforts will reduce the amount of waste sent to landfills, the largest human-generated source of methane (a greenhouse gas) emissions in the United States. Recycling projects should include encouragements for staff, park visitors, and the general public to engage in emissions-reducing activities. For example, in conjunction with a more rigorous recycling program at the park, Gateway will create displays, signs, and interpretive programs explaining the benefits of recycling to visitors.

## Work with Vendors to Define a Holistic Approach to Waste Management

The three elements of waste stream reduction—reduce, reuse, and recycle—require the cooperation of park management, vendors, and visitors alike. Gateway will work with stakeholders to improve waste management practices while educating them about positive benefits in the following ways:

- Work with vendors to create partnerships that ensure Gateway's waste can be beneficially reused and recycled (e.g., mixed paper recycling, plastics recycling);
- Create a materials exchange program whereby end-of-life materials are made available for reuse at other units and for other applications (e.g., used brick, wood waste);
- Manage new procurements by requiring purchase of products made of recycled materials or with reduced packaging and other "green" practices; and
- Develop a schedule for replacing existing materials over time and consider replacing equipment with recycled equipment or new equipment that will enhance reuse and recycling (e.g., copiers that can make two-sided copies).

## WASTE AND WASTEWATER MANAGEMENT:

- Work with Vendors to define a holistic approach to waste management.
- Identify methods to use recycled materials where possible and reduce material use.
- Develop accountability measures for recycling and reducing material use.

## Identify Methods to Use Recycled Materials Where Possible and Reduce Material Use

Reducing waste before it happens is an excellent way to reduce the flow of materials to the landfill. Gateway plans to:

- Encourage electronic transmission of information to reduce employees' paper consumption; and
- Coordinate procurement practices so that surplus materials in one unit may be used by another, rather than discarded (e.g., paper, pens, brochures, pamphlets, flyers, etc.).

## Develop Accountability Measures for Reducing Material Use

Tracking progress is an excellent way to reward improvement or identify the need for more effective management. Gateway will perform the following:

- Track and report reuse activities;
- Track and report recycling data (i.e., quantity and type of material);
- Track and report landfilling data to track reduction in disposal; and
- Identify additional opportunities to reduce use of material based on tracking data.



*Recycling reduces the amount of waste sent to landfills, the largest human-generated source of methane.*