Sustainable Providence

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Letter from the Mayor

Friends,

On Earth Day 2013, I established six sustainability goals in the areas of waste, food, transportation, water, energy, and land use and development. Soon after, my administration launched a community engagement process to develop detailed strategies and action plans to realize these important goals.

It is with great pleasure that I present *Sustainable Providence*, our comprehensive plan to usher Rhode Island's capital city into a resilient and sustainable future.

Sustainable Providence puts our City on course to make measurable progress towards goals for using our land and water resources more strategically, consuming less energy, relying more on renewable energy sources and becoming a community with high rates of recycling, composting, walking, bicycling and using buses, streetcars and other public transit.

We have already made significant progress to achieve our goals for sustainability. In my first year as Mayor, we created the City's first-ever Office of Sustainability to coordinate our initiatives across departments and in partnership with community leaders. Our Lots of Hope program has transformed vacant lots into urban gardens and farms. By enforcing state law, we have reduced childhood lead poisoning levels by an unprecedented 20 percent. Our Bicycle and Pedestrian Advisory Commission has helped make our streets friendlier for pedestrians and cyclists.

We have replaced small recycling bins with larger ones for 55,000 households, and have extended our Big Green Can recycling program to small businesses. Through Providence Composts, more and more residents are composting. Working with five other municipalities, we are developing regional solutions to prevent polluted stormwater run-off. And Providence is able to boast some of the best drinking water in America.

Sustainable Providence builds upon these efforts, identifies new initiatives and establishes measurable goals to make Providence an increasingly sustainable city. Moving towards these ambitious goals will help transform Providence into a city of the future.

This action plan is the result of a year of visioning, planning, and thoughtful revision by the Providence Environmental Sustainability Task Force and the dozens of community stakeholders who participated in the process. I sincerely thank each and every person who contributed to this plan.

Together, we will make Providence a cleaner, greener city.

Sincerely,

Angel Taveras
Mayor

Introduction

Sustainable Providence presents a community vision for a future based in sustainability. The City of Providence recognizes the urgent need to address the local causes and effects of global climate change. For Providence residents, climate change will likely mean rising sea levels, hotter summers, and more intense and more frequent storms. *Sustainable Providence* recognizes that making our city an exemplary steward of our natural environment will give us a strong foundation for a resilient and prosperous economy and community.

Over the last several years, the City has already made significant strides toward becoming more sustainable. Success stories of that progress are included in the Sustainability in Action section for each topic area. *Sustainable Providence* builds on the work of *Greenprint: Providence,* released in 2008, and *Providence Tomorrow,* the city's comprehensive plan, as well as on the achievements of the individuals and organizations in the City already dedicated to ensuring that Providence remains a resilient, healthy, and livable city.

The City Council played a crucial role by establishing the Environmental Sustainability Task Force and the position of Director of Sustainability, who were tasked with the creation of a sustainability plan along with annual progress reports. In addition to the working group participants, the Environmental Sustainability Task Force conducted video interviews of forty Providence community leaders and residents at the outset of the process to gain a broader spectrum of perspectives about sustainability in Providence.

Sustainable Providence sets a course for what sustainability will look like for our community. It is the result of a year of visioning, planning, and thoughtful revision by the Providence Environmental Sustainability Task Force and dozens of stakeholders that made up our six working groups – one for each topic area. *Sustainable Providence* establishes plans to promote sustainability in six topic areas: **Waste**, **Food**, **Transportation**, **Water**, **Energy**, and **Land Use and Development**. For each topic, an overarching goal was determined, along with strategies needed to make progress towards that goal. For each topic, select examples are provided to illustrate progress that has been made. These illustrations of Sustainability in Action demonstrate a sampling of current sustainability initiatives that move us along the path toward our goals.

The plan establishes concrete metrics to track progress in each topic area. Highest priority actions provide clear first steps that members of City government and other partners can take. Each topic area also concludes with a "What You Can Do" section, with suggestions for how every Providence resident can contribute to citywide sustainability goals. With annual progress reports, the strategies and metrics of this plan will be continually evolving with community input.

The Environmental Sustainability Task Force ensured that a "triple bottom line" framework informed the process of visioning. This means that success is measured by achievements in protecting the environment, strengthening our economy, and promoting equity. The creation of *Sustainable Providence* presented an opportunity to build a more resilient city, while also enhancing economic development and creating a more equitable society. Each of the six working groups was directed by the Task Force to consider the environmental justice implications and climate change impacts of their decisions as well as the economic impacts.

Becoming more sustainable will help the City to better serve its residents and provide all services with excellence. We cannot afford to waste money on inefficient buildings or recycling efforts. We need to create the sustainable jobs these programs can provide. One in ten children in Providence has asthma, a preventable health threat, often triggered by air pollution. We are already seeing the impacts of climate change, and we know we are going to need to build more resilient communities to weather the wide range of known and unknown impacts. Making decisions through a triple bottom line approach will ensure that we serve our people's needs, strengthen our economy, and protect our environment.

The plan is designed to be visionary, measurable, achievable, and community oriented.

- Visionary: Six broad goals are identified in the areas of Land Use and Economic Development, Food, Transportation, Water, Waste, and Energy.
- Measurable: 25 metrics will be tracked in annual reports to measure our progress towards these goals.
- Achievable: 25 strategies provide a roadmap towards the fulfillment of these goals and 30 high priority actions that can be begun immediately are identified.
- Community-oriented: Hundreds of representatives from agencies, City departments, nonprofit organizations, academia, and the community at large will be crucial to the execution of the plan.

The Land Use and Development plan follows a different format than the sections for other goals and provides a strategy for integrating environment, economy and equity into city decision making. The Sustainability Evaluation Tool described there gives City departments an analysis mechanism to consider how proposed projects will help us achieve all six of our sustainability goals. As additional departments analyze projects under this framework, the City will be more capable of tracking our progress toward our sustainability initiatives.

The following pages describe the hard work that needs to be done to make our city the sustainable community we need it to be. Moving towards the ambitious goals in this plan will help transform Providence into a city of the future. Please join us in turning them into reality.

Sustainable Providence Goals

Zero Waste
Fully implement a Zero Waste strategy by 2033. Zero Waste encourages the redesign of products to promote waste reduction and recycling, requires improved recycling and composting, and promotes reuse in innovative, economically-strategic ways.

Food
Providence is part of a local and regional food system and has a critical role to play in ensuring that this system: A) Provides every Providence resident with access to safe, affordable, nutritious, and culturally appropriate food; B) Cultivates a healthy environment in Providence by striving for zero waste, adopting ecologically sound and sustainable practices, and ensuring healthy, fair, and just working conditions and wages; and C) Contributes to the state and city's economy by supporting long-term economic development opportunities in the food sector.

Transportation
Ensure all road users have access to balanced, safe, and affordable transportation options.

Water
Strive for all water bodies to be fishable, swimmable, and accessible, and to provide high quality, affordable drinking water to all residents.

Energy
Achieve a minimum of 30% energy use reduction by 2030 in all City-owned property. Expand renewable energy and clean energy projects, and implement energy reduction policies and practices city-wide through promotion and project development. Any initiative designed to minimize energy usage in the City should also maximize economic benefits and job creation.

Land Use and Economic Development
Prioritize the City's overarching sustainability goals when making decisions about public and private land use and development. Sustainable developments emphasize the creation and preservation of open space, reinforce neighborhood character and diversity, support the development of healthy and walkable neighborhoods, promote green economic development opportunities, and improve the overall quality of life for all residents.

Sustainable Providence Waste Plan

GOAL
Fully implement a Zero Waste strategy by 2033. Zero Waste encourages the redesign of products to promote waste reduction and recycling, requires improved recycling and composting, and promotes reuse in innovative, economically-strategic ways.
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STRATEGIES			
Waste Reduction Eliminate waste before it is created.	*Increased Diversion* Maximize separation and diversion of materials that can be recycled, composted or processed for reuse.	*City Operations and Services* Implement important solid waste strategies and policies in City buildings and operations and through solid waste services to the public.	*Land Use and Business Development* Ensure land use and business development strategies to support waste reduction and diversion goals.

Metrics

- Annual waste diversion rate
- Number of households participating in City composting program
- Annual pounds of trash generated per capita
- Number of businesses participating in the main street recycling program
- Number of clean and liens to clean up vacant lots

Highest Priority Actions

- Incorporate lessons into the school curriculum about waste diversion.
- Implement Extended Producer Responsibility (EPR) purchasing ordinance to favor vendors with responsible recycling and diversion programs.
- Reduce use of disposable service ware in school cafeterias.
- Promote development of businesses which will assist in implementation of waste diversion goals including mattress recycling operations and composting.
- Establish a permanent drop-off location for electronic waste.
- Develop a plan to implement a Pay-As-You-Throw waste management program.
- Expand the Big Green Can for Business recycling program.
- Expand the Providence Composts! pilot project to additional locations to serve more households.
- Conduct a waste audit of materials disposed and recycled from City properties to identify priority items for waste reduction or diversion strategies.

- Implement a pilot project to encourage public events to incorporate waste reduction, recycling and sustainability strategies.

Introduction

Rhode Island's municipal landfill, the Central Landfill in Johnston, is quickly filling to capacity with an estimated closure date in about 24 years. The urgency to tackle our waste crisis cannot be underestimated, and there are incredible environmental and economic benefits to be gained by doing so. Setting a goal to implement a Zero Waste strategy, a philosophy that encourages the redesign of resource life cycles so that all products are reused, will require the City to increase waste diversion, decrease the overall waste generated, and reuse waste in innovative and economically strategic ways. Implementing a Zero Waste strategy will reduce discharges to land, water, and air that may be threats to public health and the environment.

Increased Diversion

Waste diversion is the prevention and reduction of generated waste through recycling, reuse, or composting. Waste diversion generates a host of environmental, financial, and social benefits, including conserving energy, reducing disposal costs, and reducing the burden on landfills and other waste disposal methods.

The City is required, by ordinance, to operate and maintain a system for the collection of household waste. City residents are also required to dispose of trash properly, and both residents and businesses are required to recycle. Despite these requirements, the City of Providence currently diverts only 18% of waste, placing it lower than the state-wide average. With this in mind, the City will challenge itself to improve diversion rates through new and existing programming, educational outreach, and enforcement activities. The City will explore proven strategies such as implementing a Pay-As-You-Throw program that would establish the cost of waste disposal based on the amount of waste generated. The City will also work to expand opportunities for composting and widely publicize e-waste drop-off events and collection locations to reduce improper disposal.

Waste Reduction

Source reduction means stopping waste before it happens. The highest goal in the solid waste management hierarchy of: Reduce, reuse, recycle. Despite its importance, by itself, recycling does not address the issue of wasteful product use. When recycling is coupled with source reduction, however, wasteful purchase and use of products is minimized. Source reduction prevents excessive consumption and thus reduces the use of energy and natural resources implicit in production processes. It extends the life of our landfill, and reduces costs associated with the transportation, disposal, and recycling of waste. From both an environmental and economic policy perspective, source reduction is a winner and an obvious area to direct our efforts.

By implementing sustainable policies and developing guidelines geared towards sustainable outcomes and producer responsibility, the City is poised to significantly decrease the amount of waste it creates. For instance, the Providence Public School cafeterias providing reusable service ware will reduce costs and waste. Additionally, requiring public events to incorporate sustainability strategies including recycling and composting would reduce significant waste and model good recycling participation for residents and visitors. The City will partner with planners of local events

to develop and implement green event policies to incorporate waste reduction strategies and provide recycling and composting services.

City Operations & Services

The City of Providence can lead by example by implementing important and much needed solid waste strategies in its own buildings and operations. Within and around City Hall, the City has already shown a commitment to recycling by siting recycling receptacles.

Further, the City implements solid waste strategies citywide through services to the public. For example, the City's 'Big Green Can' and 'Big Green Can for Businesses' recycling programs and their corresponding education and outreach campaigns reflect the City's commitment to increasing residential and business recycling rates. The City has greatly expanded enforcement of the residential recycling program in order to emphasize the importance of full participation of all residents to the program's success. The City's engagement with Southside Community Land Trust to roll out a composting pilot further reflects the City's support for developing new and innovative management strategies for organic waste.

The City of Providence can continue to show its commitment by implementing procurement policies that promote producer responsibility, maintaining and growing its 'clean and lien' program to address illegal dumping, increasing education and outreach, and investing in infrastructure to support environmentally sustainable solid waste management. A waste audit of items disposed or recycled in City properties will help define priority items to develop additional strategies to eliminate waste.

Land Use and Business Development

The way the City develops its land and attracts businesses can have a significant impact on the success of the City of Providence's waste reduction and diversion efforts. As Providence considers rezoning of the City and continues to seek out investment and job growth opportunities, an emphasis must be placed on developing parcels and supporting businesses that will help implement the City's environmental sustainability goals.

There are numerous opportunities to foster businesses that encourage waste reduction and diversion. The City should aim to attract businesses that further the City's recycling goals such as a composting facility for food waste diversion or a mattress recycling facility.

Sustainability In Action

Providence Composts!

According to a 2010 study by the United States Environmental Protection Agency (EPA) food waste makes up the largest percentage of waste sent to municipal landfill at twenty-one percent. Yet food waste is composted only three percent of the time. Unfortunately, we know that these statistics are disproportionately lower across certain geographic regions and income brackets.

With a generous grant from the Rhode Island Foundation and the Local Sustainability Matching Fund, the City of Providence launched Providence Composts! in partnership with the Southside Community Land Trust (SCLT). The residential composting project launched in Providence's economically and environmentally vulnerable neighborhoods.

With the goals of providing residents a simple, affordable, and sustainable way to divert solid waste, building healthy soils in Providence, and extending the life of the landfill, the City and SCLT worked with neighborhood organizations and farms to establish two neighborhood composting locations in 2013. Each site served 25 households by educating them about composting, and providing them with buckets and a location to drop off their food scraps. The initial pilot diverted over two tons of food scraps from the landfill. Building on its the initial success, the pilot has continued in 2014 and expanded to three locations serving over 100 families.

Big Green Can for Business

In June of 2013, Mayor Angel Taveras and the Hope Street Merchants Association launched the 'Big Green Can for Business' recycling pilot program, an effort to expand the City's residential recycling initiative to the small business community. With the goal of making it "easy to be green," businesses received a recycling bin and City-sponsored weekly collection service for a one-time fee of $50.

Prior to the program, businesses were responsible for establishing their own relationships with collection companies. As a result of the ease and affordability of the program, 19 Providence-based small businesses have already taken advantage of the opportunity.

Earth Day Spring Cleaning

Providence has over 93 parks in 26 neighborhoods and each has a unique spirit and role to play in the life of the community. In April of 2013 and 2014, Mayor Taveras has hosted an annual event: a citywide celebration of Earth Day, dedicated to cleaning up green spaces and neighborhoods. This impressive event draws almost 2000 volunteers to Providences parks and could only be possible through a high level of collaboration with neighborhood organizations and community groups across the city. Volunteers spend the morning cleaning up a park, planting trees, or beautifying a neighborhood. There are also educational activities for children and families at several parks.

Earth Day Spring Cleaning is planned in partnership with Serve Rhode Island, the Partnership for Providence Parks, the City of Providence, Johnson & Wales University, and the USFWS Urban Refuge Partnership. Volunteers are given a free lunch, a T-shirt and an Earth Day button that gives them numerous benefits at local businesses and free admission to Roger Williams Park Zoo, Botanical Center and Natural History Museum. The annual Earth Day Spring Cleaning is a clear example of the role community groups can play in maintaining the beauty of Providence's public spaces.

What You Can Do

- Recycle all clean plastic containers up to 2 gallons, paper, glass and cans in designated city recycling bins. Learn more about what can be recycled at www.recycletogetherri.com.
- Consider composting in your backyard to keep organic waste out of the landfill. Learn how at www.rirrc.org/resident/composting/.
- Avoid plastic shopping bags and take your own to the store. Buying products without excess packaging and bringing your own shopping bags reduces energy usage and keeps excess waste out of municipal landfills our waterways, and the ocean.
- Plan or participate in a neighborhood clean-up.

Sustainable Providence Food Plan

GOALS

Providence is part of a local and regional food system and has a critical role to play in ensuring that this system: A) Provides every Providence resident with access to safe, affordable, nutritious, and culturally appropriate food; B) Cultivates a healthy food environment in Providence by, adopting ecologically sound and sustainable practices, and ensuring healthy, fair, and just working conditions and wages; and C) Contributes to the state and city economies by supporting long-term economic development opportunities in the food sector.

STRATEGIES

Production	*Processing*	*Distribution*	*Consumption*
Encourage and promote appropriately scaled agriculture production to meet the needs of residents.	Utilize existing manufacturing facilities and create new infrastructure to make Providence a major food processing hub for the New England region.	Utilize existing distribution infrastructure and create new distribution models to make Providence a major aggregation and distribution hub for the New England region.	Increase consumption of local and healthy food produced in ways that are ecologically-sound and provide fair and just working conditions and wages.

Metrics

- Number of community gardens and urban farms
- Number of community garden beds in Providence
- Percentage of population that is a 10 minute walk (1/2 mile) from a community garden
- Number of food processers in Providence County
- Number of City-owned properties used for urban agriculture
- Percentage of Providence County residents who are food-secure

Highest Priority Actions

- Maximize use of Providence's land for urban agriculture, including vacant City-owned property.
- Encourage home food processing and food processing business development.
- Support the creation of a year-round Providence Farmers' Market.
- Align City of Providence planning, zoning, and funding to support healthy food consumption and local food purchases.

Introduction

Providence is part of a local and regional food system and plays a critical role in ensuring that this system: A) Provides every Providence resident with access to safe, affordable, nutritious, and culturally appropriate food; B) Cultivates a healthy environment in Providence by, adopting ecologically sound and sustainable practices, and ensuring healthy, fair, and just working conditions and wages; and C) Contributes to the state and city economies by supporting long-term economic development opportunities in the food sector.

Production

The City of Providence recognizes its unique and important role in the local and regional food system due to its land base and dense population. Produce (and animals as appropriate) can be grown or raised in Providence at a number of scales: from container gardens, home and backyard gardens, and community gardens, to indoor/outdoor commercial farms and aquaculture operations. Affordable access to land is a major limiting factor to production in Providence and is critical to increasing production opportunities. In recognition of the diversity of Providence's population, the production of food will strive to meet the cultural food needs of the City's residents.

Processing

Due to the seasonality of production, Providence could play an important role in supporting and encouraging processing infrastructure in the State. The City can directly support increased processing at the home and commercial scale in Providence, while ensuring high quality and safe food for Providence residents and for export. The value-added potential of processing raw foods provides enormous opportunity for long-term economic growth in the City and the creation of jobs with fair and just working conditions and wages. By utilizing existing manufacturing facilities and creating new infrastructure, Providence will be well on its way to becoming a major food processing hub for the New England region. Food hubs are centrally located facilities with a business management structure facilitating the aggregation, storage, processing, distribution, and/or marketing of local or regional food products.

Distribution

Due to Providence's population density and its central geographic location connecting New England and the NY tri-state area, the City could play an important role in the aggregation and distribution of raw and processed foods for the retail and wholesale market. As with production, distribution infrastructure needs to be appropriately scaled to support retail and wholesale storage, aggregation, and alternative models for distribution. By utilizing existing distribution infrastructure and creating

new distribution models, Providence will be on the path to become a major aggregation and distribution hub for the New England region.

Consumption

All Providence residents should have equal opportunity to purchase and consume food and beverages that are healthy, affordable, and culturally appropriate, are produced in ways that are ecologically-sound and provide fair and just working conditions and wages. The City of Providence strives to encourage the consumption and purchase of food that meets these criteria and supports Providence and Rhode Island businesses.

Although purchase and consumption is a complex issue since food is consumed both inside and outside of the home (at retail as well as institutional establishments). The City recognizes the direct economic benefit of supporting Providence and RI businesses through local purchasing. The city also recognizes that there are positive environmental and community health benefits that can be realized by increasing the accessibility, affordability, and availability of healthy food in Providence.

Sustainability In Action

Production: Lots of Hope

Lots of Hope is the City of Providence's urban agriculture initiative, which transforms unused city property into productive urban farms for use by limited resource and socially disadvantaged urban farmers. Lots of Hope seeks to improve access to locally grown produce in Providence markets, expand the City's portfolio of green space, and contribute to improvements in air quality, public health, and local property values. Lots of Hope has generated nationwide attention and has spread an exciting energy around urban agriculture in Providence

The City leases lots to community members and organizations interested in urban growing. The program also introduced a residential composting program that provides households located in low-income neighborhoods the opportunity to reduce waste and produce compost that would, in turn, help nourish and sustain these urban gardens and farms. Because of its innovative approach and its joint economic, environmental, and health-related benefits, the program has already had a tangible impact on the City of Providence and its residents.

The Lots of Hope initiative is in line with the missions of both the City's Office of Sustainability and the Healthy Communities Office to provide access to land so people in Providence can grow food in environmentally sustainable ways. Ultimately, it supports the vision of creating a community food system where locally produced, healthy, and affordable food is accessible to everyone.

Distribution: Farm Fresh RI Market Mobile

Local farmers and buyers have a shared interested in doing business with one another. Farmers want to establish strong client relationships and move product quickly. Customers want an organized and efficient way of purchasing produce from several different farms, yet both parties often have incompatible schedules and insufficient capacity to manage multiple relationships.

Enter the intermediary: Market Mobile. In 2009, Farm Fresh RI created an online mobile market to benefit both farmers and industry leaders such as restaurant owners and chefs, grocers, and hospital

and school administrators. Market Mobile is a farm to business delivery service that allows interested buyers to place online orders for fresh food that will later be delivered to them.

Because Farm Fresh RI acts as an aggregator and gathers fresh food from a wide variety of producers, buyers successfully avoid the burden of having to place calls to and conduct business with a large number of farms and can instead order produce, meat and seafood, dairy and eggs, and a variety of herbs directly from Farm Fresh RI. In 2013 alone, Market Mobile was able to move over $1,691, 000 worth of fresh food from 68 local producers to 268 customers. Market Mobile is available all months of the year, and is continually expanding its model in an effort to achieve the ambitious goal of increasing local food consumption from one percent to three percent by 2015.

Consumption: Promotion of Federal Meal Programs

The U.S. Department of Agriculture supports a variety of federal food programs for children and youth 18 and under. The City of Providence looks to promote these meal programs whenever possible, in order to ensure all Providence children have access to healthy meals year round. In Providence Public Schools, students have access to: School Breakfast Program, with many schools serving in the classroom; National School Lunch Program; and the Fresh Fruit and Vegetable Program (elementary school). The City also looks to support Farm to School activities in Providence schools including local purchasing and garden education; Providence's new food service contract states that RI-grown products are preferable and should compose at least 15% of all food purchases.

The City also looks to support child nutrition when school is not in session. The Providence Parks Department serves breakfast and lunch to Providence youth at over 100 sites through the Summer Food Service Program. The City also seeks to expand meal access to students attending after-school enrichment programs through the Child and Adult Care Program's snack and supper service.

What You Can Do:

- Sign up for a locally sourced market share or community supported agriculture (CSA) to get food fresh from the farm every week, and try and eat in season and local food as often as possible. Buying locally-grown food not only helps improve local economies, it saves significant amounts of energy. One big plus: local food is usually much fresher.
- Support local farmers markets and restaurants that use local food. Go to farmfresh.org and checkout their comprehensive local food guide.
- Try to grow some of your own food in your backyard or start a community garden. Go to southsideclt.org or web.uri.edu/riaes/community-gardening-and-outreach for more info on community gardens.

Sustainable Providence Transportation Plan

GOAL
Ensure all road users have access to balanced, safe, and affordable transportation options.
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STRATEGIES				
Complete Streets Improve Providence's roads so that they are safe and accessible for all users.	*Transit* Provide greater access to high-quality mass transit options.	*Vehicles* Reduce pollution from and fuel consumption by private vehicles.	*Bicycles* Strive to make cycling a safe and attractive transportation option.	*Pedestrians* Strive to make walking a safe and attractive transportation option.

Metrics

- Number of vehicle miles travelled per household
- Percentage of mass transit commuters
- Miles of bicycle friendly roads (including bike lanes, shared lane markings, and bikeways)
- Percentage of bicycle commuters
- Yearly bicycle and pedestrian accident data

Highest Priority Actions

- Incorporate Complete Street concepts into all future road construction and repair projects.
- Be the lead municipal advocate for stable state funding for the Rhode Island Public Transportation Authority (RIPTA), lead the effort to transform Kennedy Plaza into a lively civic center, and work with RIPTA to implement their five-year strategic plan.
- Advance efforts to introduce a modern streetcar system, beginning with a line connecting College Hill to the Hospital District.
- Remove parking minimums and allow shared parking in the City's new zoning ordinances.
- Launch a municipal bike-share program.
- Oversee the construction of a new pedestrian bridge over the Providence River linking the Jewelry District to Fox Point and the extension of this pedestrian and bike-friendly path through the South Side to Roger Williams Park.

Introduction

A robust and balanced transportation network that is safe and accessible for bicycles, pedestrians, cars, and public transit is essential for achieving greater mobility, a cleaner environment, and improved access to jobs, schools, healthcare, and recreation for all who live in, work in, and visit Providence. It also provides a crucial foundation for business and job creation. This action plan identifies the essential building blocks of such a transportation network– Complete Streets, sound

parking management strategies, enhanced public transit, and improved bicycle and pedestrian access to a diversified network of transit options.

Complete Streets

Streets in addition to moving cars, trucks and buses, they allow children to get to school and parents to get to work; they bring together neighbors and draw visitors to neighborhood stores. As such, streets ought to be designed for everyone, but too often are designed only for speeding cars or creeping traffic jams. Complete Streets are enable safe access for all users, making it easy to cross the street, walk to shops, bus stops and train stations, bicycle to work, allowing buses to run on time.

Providence is among nine municipalities in Rhode Island to have already enacted a "Complete Streets" resolution, and has incorporated Complete Street concepts with success with traffic calming and pedestrian-friendly features such as extended curb sidewalks on main thoroughfares including Hope Street and Atwells Avenue. Building on this success, all future road construction and repair projects will be designed to include appropriate Complete Street concepts, thus ensuring that everyone – young or old, on foot or on bicycle, in a car or in a bus – has easy and safe access to our streets.

Mass Transit

Mass transit options that connect within and among urban centers are fundamental to our state's economic vibrancy and livability in the 21st century. Twenty-three percent of Providence residents do not own personal vehicles, underscoring the need for transportation alternatives.

The Rhode Island Public Transit Authority (RIPTA) moves more than 18 million passengers each year, with Providence serving as the primary hub of its operations. Nearly 70% of bus riders use RIPTA to commute to and from work or school. Despite a growing demand for transit, RIPTA's over-reliance on a declining source of revenue, the gas tax, has resulted in routine service reductions and fare increases. In order to sustain a viable transit system, a sustainable and reliable source of state funding needs to be secured. This will provide the foundation for RIPTA to implement its five-year "Vision for the Future of Transit in RI" strategic plan, enabling it to deliver more frequent and enhanced services like Rapid Bus and more attractive bus shelters with real-time route information. Complementing this will be the City and RIPTA's efforts to increase other transit options, such as a modern streetcar in downtown Providence, and to reinvent and redefine Kennedy Plaza as a pedestrian-friendly multi-use civic center for transit, retail, commercial and recreational activity.

Vehicles

When private vehicles are the best transportation option, there are still ways to reduce vehicle miles travelled (VMT) and increase efficiency. Doing so will reduce congestion and decrease greenhouse gas emissions and other air pollution.

Removing parking minimums and allowing shared-parking in the City's new zoning ordinance will reduce the amount of surface parking in the city. Establishing municipally-owned parking garages would help reduce the need for surface parking. Improved parking meters with multiple payment options and sensor technology will make it easier for motorists to find parking and pay for it.

To decrease pollution and reliance on oil, the City will look into purchasing more fuel efficient vehicles for the City fleet, and will encourage the state to require more fuel efficient taxi vehicles, including alternative fuel vehicles. Car-sharing is another transportation option that allows residents, businesses and students to live and work car free. Since Zipcar launched a car-sharing program with the City in 2011, car-sharing has increased its presence from the initial launch of 20 vehicles up to 89 cars in the peak season.

In addition, Providence will encourage more charging stations for plug-in electric vehicles (PEVs). Building on this robust network will make Providence a more electric vehicle-friendly city.

Bicycles

Commuters are rapidly beginning to recognize bicycling as a convenient means of transportation in the City, and evidence of the cultural changes around cycling include the numerous events that celebrate bicycle use in Providence such as Cyclovia, the Tweed Ride, and Bike to Work Day and Week. In addition, Providence recently hosted such regional events as the Cyclo-Cross Festival, the New England Bike/Walk Summit, and the Builders Ball, and received Honorable Mention as a Bicycle Friendly Community in 2013. Programs and events run by Recycle-A-Bike, the Woonasquatucket River Watershed Council, and others have made it easier for the City's lower income residents to have access to bicycles and bike-related programming.

However, there is still much to be done to make bicycling safe and convenient. In 2012, Mayor Taveras created the Bicycle and Pedestrian Advisory Commission (BPAC). BPAC holds monthly public meetings, offers recommendations for bicycle improvements, and provided direction for the *Bike Providence* plan released in November 2013. *Bike Providence* establishes a roadmap for increasing bicycle use through improved bicycle parking and facilities, a more extensive network of bicycle routes, a citywide bike-share program, and an education campaign in cooperation with RIDOT to improve public awareness of bicycle safety.

Mayor Taveras and his administration are also pursuing a citywide bike sharing system. The City has selected Alta Bicycle Share to own and operate the bike sharing system, as the system will be cost-neutral to the City. The availability throughout Providence of publicly accessible bikes will provide a convenient and healthy transportation option to the people of our city. Bike sharing will help lower downtown parking demand, reduce harmful emissions and contribute to a more bicycle-friendly community.

Pedestrians

Providence's size and density make it a highly walkable city. To make walking even safer and more attractive, the City will work to improve pedestrian infrastructure, particularly around schools and construction sites. This will include, making sure that pedestrian crossings, markings and timings are adequate, increasing the number of crossing guards around Providence schools, and ensuring that sidewalks are wide and clear of obstacles. Driver education around pedestrian safety will also be a crucial part of the effort. The City will collect baseline and yearly accident data to evaluate the effectiveness of these measures. The proposed pedestrian bridge over the Providence River will improve pedestrian access by connecting parks on both riverbanks and providing more convenient access between the Jewelry District and Fox Point.

Sustainability In Action

Rapid Bus

RIPTA's first Rapid Bus line, the R-Line, began running in June of 2014. RIPTA's R-Line replaces the two highest use bus routes in the state, the 11 and 99, that run along North Main Street and Broad Street, connecting both Pawtucket and Cranston to downtown Providence. The R-Line features uniquely branded stops, transit signal priority, Art in Transit bus shelters, frequent service, uniquely branded buses and added amenities that will significantly improve the speed and attractiveness of bus service. The R-Line is expected to improve travel time by up to 12% for passengers in the 7 mile corridor; service runs every 10 minutes during the day and every 20 minutes at night.

Bike Providence

In November 2013, Mayor Angel Taveras and the Providence Bicycle and Pedestrian Advisory Commission unveiled the *Bike Providence* master plan, a blueprint for identifying, prioritizing and introducing bicycle facilities throughout the city. Building off of the partial infrastructure built as a result of the Providence Bicycle Network plan, *Bike Providence* calls for the establishment of a comprehensive network of bicycle lanes and parking facilities. In addition to engineering solutions, the plan also highlights the importance of the rest of the Five Es: Education, encouragement, enforcement, and evaluation. The plan is intended to be a living document that is open to public comment and can be modified from time to time.

Electric Vehicle Charging Stations

In 2013 a consortium of Chargepoint, National Grid and Project Get Ready installed 12 electric vehicle charging stations in the City of Providence as part of a state contract to install 50 stations around the state. These stations are web connected, with two ports to charge two vehicles simultaneously and capable of tracking electricity use and consequent reductions in greenhouse gas (GHG) emissions.

What You Can Do

- Avoid using your car when possible: walking, biking and RIPTA, can be more convenient options for getting around the city than driving. Encourage your employer to offer better commuter benefits such as public transportation passes, bike racks and in-office showers.
- When you do use your car use it more efficiently: accelerating slowly and smoothly, driving the speed limit, maintaining a steady speed, and anticipating your stops and starts can save more than a ton of carbon dioxide per year. Maintaining your car regularly also increases fuel efficiency.
- Carpool to school or work using websites such as www.nuride.com.
- Aim to become a better biker by increasing your bike safety awareness: Always wear a helmet, stay visible with bright colors and a headlight at night, learn bicycling hand signals, and follow all rules of the road.

Sustainable Providence Water Plan

GOAL
Strive for all water bodies to be fishable, swimmable, and accessible, and to provide high quality, affordable drinking water to all residents.
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STRATEGIES			
Maintain and expand public access to the waterfront, and provide recreational opportunities at shorelines and on the water for all residents and visitors.	Protect and restore buffers and habitat in and around all waterways and wetlands.	Promote efficient water usage practices to preserve our water supply, protect the source of our drinking water, and maintain and improve our water delivery infrastructure.	Improve surface water quality and mitigate flooding of water bodies through strategies including robust stormwater management.

Metrics

- Number of trees planted
- Miles of cast iron water mains replaced/relined
- Number of access points for passive and active recreation on the waterfront
- Gallons per capita per day of water consumed by Providence residents
- Number of lead service lines fully replaced
- Number of water filters distributed to households at risk to lead in drinking water during the completion of Providence Water lead service replacement construction work.

Highest Priority Actions

- Adopt a Harbor Management Plan by 2015.
- Complete the Upper Narragansett Bay Regional Stormwater Utility Feasibility Study by 2015.
- Support the protection and restoration of buffers and habitat through Bio Blitz activities, where the community is engaged the community in a comprehensive inventory of urban flora and fauna within a defined geographical area.
- Continue to repair and update water supply infrastructure.
- Implement recommendations of the Providence Water Supply Board expert panel investigating the issue of lead levels in drinking water.
- Work toward fulfillment of Total Maximum Daily Load (TMDL), stormwater management, and wastewater requirements while pursuing pavement reduction and implementation of green infrastructure to offset practices that are harmful to water quality and contribute to flooding.

Introduction

The Scituate Reservoir supplies Providence and a number of other communities in Rhode Island with some of the best drinking water in the country Under the authority of the Providence Water Supply Board the city's water distribution infrastructure is maintained and quality water is provided quality water at an affordable price to 600,000 Rhode Island residents.

Providence's rivers, ponds, and multiple waterfronts provide important recreational opportunities for residents and visitors, including canoe and kayak programs on the Woonasquatucket River, rowing on the Seekonk River, sailing at the head of Narragansett Bay at India Point Park, water access at green spaces such as 427-acre Roger Williams Park, and more.

The iconic WaterFire brings hundreds of thousands of visitors to Providence each year, and with that $70 million in economic impact for Providence and 500 jobs for local residents.

Yet, due to past development practices, sewer discharges and stormwater runoff from impervious surfaces, many ponds and rivers in the Upper Bay have impaired water, reducing both their value as habitat for wildlife and their desirability as recreation areas. The threat of more intense storms as a result of climate change may further exacerbate the impacts of stormwater runoff.

Improving the quality of our water bodies will require retrofits of existing infrastructure and facilities, so that all future developments follow effective stormwater management principles. Further, a commitment must be made to cross-municipal collaboration. These actions, along with continued efforts to improve our water supply infrastructure, will be crucial to ensuring that all those who depend on the watershed have universal and convenient access to water for recreation and drinking.

Improve access to waterfront recreation opportunities

Providing residents with continued access to high quality waterfront recreation will require us to clean up our water bodies, expand and maintain recreation facilities, publicize recreational opportunities, and protect and create natural buffers, forest and green infrastructure.

Cleanup efforts will include the removal of marine debris and derelict vessels. Methods to restore the uses of the Providence River will be explored, including the removal of sediment to ensure the continued success of WaterFire.

The newly appointed Harbor Commission will adopt a Harbor Management Plan to expand mooring sites for recreational vessels, establish and maintain dedicated points of access to the waterfront, ensure ease of marine navigation, and maintain and improve water quality. The city should remain closely engaged in plans for the development of the former Shooters site at India Point, which has the potential to connect the East Side of the city with South Providence, downtown, and the West Side.

Additionally, redevelopment of the former I-195 parcels calls for parks along the riverfront, providing high quality public access to the waterfront while presenting an opportunity to introduce green infrastructure that will improve stormwater management and water quality. Other new

recreation facilities will include additional boat launch facilities and bike paths along the Seekonk and Woonasquatucket rivers.

Protect habitat in waterways and wetlands

Providence was built along rivers and, while the urban landscape has altered these waterways, they still provide valuable habitat for fish, birds and other wildlife. Every effort should be made to preserve and enhance the natural habitat that remains.

Under the leadership of the Woonasquatucket River Watershed Council, federal and state partners have invested in river restoration, dam removal the construction of fish ladders to allow fish to travel up the Woonasquatucket River to spawn. Restoration of riverbanks with native trees and plantings will improve stormwater management, provide shade, enhance habitat, mitigate river flooding, and improve climate resilience.

Invasive species are a problem statewide, including urbanized areas like Providence. The Rhode Island Department of Environmental Management (DEM) and Coastal Resources Management Council (CRMC) have partnered with the Blackstone Conservancy in a revegetation effort along the Seekonk River; continued vigilance and similar efforts will be required to remove invasive plants that aggressively overwhelm natural habitats and to replant native species in waterfront areas throughout the city.

A comprehensive inventory of Providence saltwater and freshwater flora and fauna that builds on existing state habitat and recreation plans and identifies critical habitat areas is the first step towards protecting habitat. Participating in the statewide actions in the Rhode Island Aquatic Invasive Species Management Plan will also be essential to preventing the introduction, controlling the spread, and minimizing the harmful impacts of aquatic invasive species.

Maintain drinking water quality and affordability

To continue to deliver high quality drinking water and protect public health, Providence Water needs to maintain and upgrade infrastructure, address lead contamination in drinking water, and continue to protect the Scituate Reservoir and its watershed by promoting sound land use management practices.

Some of Providence's infrastructure was installed in the early part of the last century, and more than 530 miles of unlined cast iron mains need to be replaced or lined to prevent iron sediment from discoloring the drinking water supply. Approximately 35 miles of main have been replaced so far, and Providence Water is committed to spending at least $12 million per year through 2016 on this. Reducing lead levels and addressing lead corrosion control is another priority item.

Providence Water recently implemented a system-wide Unidirectional Flushing Program (UDF) and is committed to ongoing aggressive flushing of the distribution system. Since 2007, Providence Water has replaced more than 15,400 partial lead services at a cost of $55 million to date. An expert panel, composed of water supply professionals, consultants and academia, was convened in 2012 as the result of a consent agreement between Providence Water and the Rhode Island Department of Health. The panel and agency participants held extensive discussions on lead issues, the latest research findings and potential treatment options. Providence Water will continue to implement

recommendations of the expert panel, which include adjusting pre-treatment targets, implementing unidirectional flushing, expanding lead sampling programs, and further researching various optimization strategies.

Besides maintaining the City's water infrastructure, Providence Water is committed to protecting water at its source, having acquired almost 3,400 acres of land to minimize development in the Scituate Reservoir watershed area. Continued funding of watershed protection education campaigns and current land acquisition programs will preserve water quality and reduce the need for heavy treatment later in the water supply distribution process. Finally, to preserve our water supply, Providence Water will continue to encourage water conservation by continuing to offer residential retrofit kits at no cost and implementing monthly billing.

Improve surface water quality

Pollutants in stormwater runoff from developed lands can severely affect water quality. Stormwater runoff also increases the risk of flooding, particularly in the face of the threat of more severe storms as a result of climate change. Effective stormwater management, with the cooperation of other municipalities, businesses, and nonprofits, will provide an essential foundation to achieve other water quality goals. Additionally, green infrastructure strategies to capture the rain where it falls, such as tree planting and bioswales, will help the city be more resilient to climate change impacts like high heat days, more intense and frequent storms and increased mosquito populations

Several initiatives are currently underway to improve surface water quality and water resource management. The City has begun a regional stormwater management feasibility study with five other metropolitan communities to explore existing gaps in municipal stormwater maintenance and potential regional approaches to addressing them. Establishing a stable and adequate funding stream for stormwater management would provide the resources to comply with stormwater management requirements and to invest in necessary green infrastructure.

The Providence Parks Department has implemented several green infrastructure projects in Roger Williams Park to support water quality improvements. Nonprofits such as the Urban Pond Procession, Woonasquatucket River Watershed Council, Blackstone Park Conservancy, Groundwork Providence, and the Environmental Justice League of Rhode Island continue to garner neighborhood, government and private support and funding for green infrastructure projects. The City recently received a grant from the EPA to construct green infrastructure at a public ballfield near Mashapaug Pond in Reservoir Triangle to help manage stormwater. Collectively, efforts like these serve both to reverse the impacts from existing development on water quality and illustrate the design principles that should accompany all future developments in order to minimize further impacts.

Sustainability In Action

Woonasquatucket River Watershed Council

Named one of only 14 American Heritage Rivers for the role it played in the Industrial Revolution, the Woonasquatucket River flows 19 miles south and east from its headwaters in Glocester, North Smithfield and Smithfield into downtown Providence, where it joins the Moshassuck River to form

the Providence River, which in turn flows into Narragansett Bay. Thanks to the work of the Woonasquatucket River Watershed Council (WRWC) and its partners, parts of the river today are celebrated recreational sites.

The WRWC grew out of the Woonasquatucket River Greenway Project launched in 1993 as a project of the Providence Plan. Since then, the Greenway Project and the WRWC have revitalized the watershed by building, restoring and maintaining 62 acres of parks and open space, including Merino and Donigian parks and the Fred Lippitt Woonasquatucket River Greenway (Providence's only off-road bicycle path). They have also played a lead role in the restoration of the abandoned Riverside Mills site into beautiful Riverside Park.

WRWC works to both create and improve recreational opportunities along the greenway and to restore habitat in the river. Each year, the WRWC organizes two major events, the Woony River Ride every September and Clean Day on the Greenway in April. In addition, WRWC leads service days, bike rides, paddle trips on the river, nature walks on the bike path and educational programs in local public schools. WRWC's fish passage restoration program works to provide fish passage at the first five dams on the Woonasquatucket, allowing fish to move up and down the lower river.

The Steel Yard

Thirteen years ago, Providence Steel and Iron, located at 27 Sims Avenue in Providence, was a declining steel fabrication facility in the heart of Providence's industrial Valley neighborhood. In 2001, the site was purchased by two young entrepreneurs who sought to change the character of the neighborhood. In 2002, they founded the nonprofit The Steel Yard in an effort to give new life to the industrial site, redesigning it into a multi-purpose space for arts education, public performances and community events.

From 2003 to 2010, with the help of grants from the U.S. Environmental Protection Agency (EPA) and support from local economic incentives, The Steel Yard partnered with landscape architects to transform the site. The remediation effort included the removal of lead based contaminants and several green infrastructure projects aimed at both storing rainfall on site and filtering stormwater runoff. These included building a system of porous pavements and introducing bio swales, landscape structures designed to remove pollution from storm water runoff before it enters the drainage system.

Mashapaug Pond Green Infrastructure Project

The City of Providence has partnered with the Environmental Protection Agency (EPA), the Rhode Island DEM and other stakeholders to construct a green infrastructure project at J.T. Owen's Park near Mashapaug Pond. When it rains, impervious surfaces that surround Mashapaug Pond – roads, roofs, and walkways – don't allow water to infiltrate into the ground and instead pick up oils, grease and other chemicals that flow into and pollute the pond. These pollutants accelerate the growth of bacteria and algae that are harmful to the pond's ecosystem as well as to humans and pets.

This green infrastructure project will be a bio-infiltration system sited adjacent to the existing Little League baseball fields which are located near Mashapaug Pond. The system will use vegetation and soil to clean the polluted rainwater before it flows into the pond. The project will capture over 2 million gallons of polluted stormwater run-off each year and prevent over six pounds of

phosphorous from being released into the pond system. By weaving natural processes into the built environment, green infrastructure provides not only stormwater management, but also flood mitigation, air quality management, and much more.

The Mashapaug Pond green infrastructure project will include a public outreach component to showcase the project and engage the community. An important goal of this project is to introduce municipal officials and other public and private stakeholders to green infrastructure as a practical and effective technique to reduce stormwater runoff and pollution and improve water quality.

What You Can Do

- Practice water conservation to both protect the environment and to save money for example by fixing leaks. Household leaks waste up to 10,000 gallons of water in the average U.S. family per year; that is the equivalent of 270 loads of laundry. To see how you can save more water go to: www.epa.gov/watersense/our_water/start_saving.html#tabs-1
- Increase the amount of grass, plants, and trees, and reduce the amount of asphalt, concrete, and other surfaces that don't absorb rain water. Use of permeable alternatives to traditional pavement in parking areas, courtyards and patios, and driveways can effectively increase infiltration and reduce stormwater runoff. You can help to divert stormwater runoff at home by constructing a driveway swale, right-of-way buffer or storm water planter that will redirect rain water into the ground. For tips on how to do this and for more information on stormwater in Providence go to ejlri.org/toxic-hazards/urbanponds
- You and your neighbors can easily apply for a grant to get trees planted on your street from the Providence Neighborhood Planting Program (PNPP). If you receive the award, PNPP will provide trees for you and your neighbors to plant on your street for free! Check out this website for more info: pnpp.org.

Sustainable Providence Energy Plan

GOAL
Achieve a minimum of 30% energy use reduction by 2030 in all City-owned property. Expand renewable energy and clean energy projects, and implement energy reduction policies and practices citywide through promotion and project development. Any initiative designed to minimize energy usage in the City should also maximize economic benefits and job creation.

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STRATEGIES		
Conservation Reduce energy usage and increasing energy efficiency in City-owned buildings.	**Incentives** Promote energy reduction initiatives for building owners and energy users citywide.	**Renewables** Identify and implement renewable energy opportunities on City properties, as well as citywide.

Metrics

- Energy use intensity (amount of energy used per square foot of a building) of City owned properties
- Percent reduction of energy use in residential and municipal properties
- Percentage of energy used in City of Providence properties that comes from renewable sources
- Number of renewable energy projects in Providence

Highest Priority Actions

- Develop an energy use baseline for all City-owned properties.
- Complete audits on City-owned buildings to identify energy efficiency opportunities.
- Convert streetlights to energy efficient technology.
- Implement an employee education campaign to engage City employees in achieving energy conservation goals.
- Identify all programs available to Providence property owners and gather data on use of programs by Providence property owners to establish a baseline of program utilization.
- Promote participation in energy reduction programs available to City property owners.
- Complete the renewable energy feasibility study of City property.

Introduction

A clean energy plan for Providence will require investments in energy efficiency and expansion of renewable energy projects on City-owned properties as well as citywide. With state laws providing

incentives for both, the City of Providence will be able to reduce energy costs and reduce our carbon footprint.

Increased energy efficiency on City property

The City of Providence aims to reduce energy use and increase energy efficiency in all publicly owned buildings. The first step in achieving this goal is to develop an energy-use baseline for all City-owned properties. This is already partially achieved by the Energy Managers in the Office of Sustainability who are tasked with collecting, organizing and distributing data, measuring and verifying energy-efficiency measures and reviewing potential projects. Completing energy audits on each City-owned property will establish an energy baseline for each building and identify further opportunities to increase energy efficiency on city properties.

Since 2010, the City has completed lighting retrofits, gas conversions and other energy efficiency and conservation measures at 24 of the 41 school buildings, and 30 additional City-owned and operated buildings. In FY 2012, Providence's total energy use (electric, oil and gas) was down 15% from the previous three-year average use. The investments in 19 lighting retrofits in school buildings have saved an average of $231,000 per year, and reduced carbon pollution the equivalent of planting more than 33,000 trees. Significant opportunities for energy efficiency projects still remain on City-owned properties, in buildings as well as streetlights.

The state Municipal Streetlight Investment Act of 2013 creates the opportunity for the City of Providence to purchase its 18,000 streetlights from National Grid and to retrofit those lights with energy efficient technology. The $4 million annual electricity costs for streetlights represent nearly half of the City's total electric bill. Purchasing the lights from National Grid will provide significant savings in maintenance costs, and replacing the lights with more efficient technology will generate both savings and environmental benefits from reduced power use.

Deep energy retrofits should be implemented on buildings where a comprehensive integrated approach to building energy use reduction is identified to be cost effective during the audit process. To maximize job opportunities for residents and promote local economic growth, all deep energy retrofit projects should include community workforce agreements. Ongoing partnerships between the City, utility companies, and state and federal agencies will be important in helping the City reach this goal.

An employee education campaign, and ongoing program evaluations and accountability systems, will ensure the sustainability of this effort to reduce energy usage and increase energy efficiency in City-owned properties.

Reduce energy use and increase energy efficiency city wide

In partnership with National Grid and other community organizations, the City will gather data on how Providence residents use existing energy efficiency incentives to establish a baseline of utilization. The City will then create a communications strategy and action plan to promote the

opportunities available to Providence property owners. The City will ultimately aim to implement an energy benchmarking ordinance, as appropriate, for all building owners within the City in order to create more transparency and awareness of building energy use and efficiency.

To expand energy efficiency investments citywide, the City is partnering with National Grid as participants in the Georgetown University Energy Prize. The university is offering a $5 million prize to the mid-sized city that has the largest reduction in energy use in the residential and municipal sectors.

Increase renewable energy projects

Rhode Island's newly expanded distributed generation and net metering laws make renewable energy projects more affordable for the City of Providence as well as local property owners. The West Side Solar project (described below) serves as a successful example of how small scale-renewable energy projects can help reduce residents' electricity bills.

The City has received a grant from the state Renewable Energy Fund to conduct feasibility studies for solar and hydropower opportunities that would reduce electric demand on City-owned properties. In these studies, the City will analyze the technical and financial viability of renewable energy projects on City property. These feasibility studies will set the priorities for the City's investments in renewable energy developments over the coming years.

Sustainability In Action

Providence Public Schools Dishwasher Project

To save money and reduce energy consumption, the City of Providence and Providence Public Schools installed Energy Star-rated dishwashers at twelve schools in 2014. The new dishwashers will save $100,000 per year on water, electricity and gas costs and fully pay for the improvement within five years. Additionally, switching the twelve schools from disposable Styrofoam serving trays to reusable trays will reduce trash by over 5 tons per year.

Green and Health Homes Initiative

The Green and Healthy Homes Initiative (GHHI) is designed as a comprehensive approach to offer integrated health, safety, lead hazard reduction, energy efficiency, and weatherization interventions in low to moderate income homes. A green and healthy home is one that consumes less water and energy, produces less waste, and does not contain health or safety threats. A GHHI home maximizes the benefits of each individual home improvement and supports the well-being of the people living there in many different ways.

In 2011, the City undertook the implementation of a weatherization and healthy homes demonstration project – the GHHI Providence Neighborhood Innovation Pilot. The pilot provided weatherization and health and safety upgrades for 135 low-income single family households located within concentrated areas in the Olneyville and Valley neighborhoods. In addition, the pilot

incorporated an intensive marketing and community-based education campaign, minority contractor training and development, and an intensive program evaluation. The successful pilot is being expanded in 2014 to include an additional 50 households.

West Side Solar

The West Broadway Neighborhood Association (WBNA) has organized residents and businesses on the West Side of Providence for over three decades, providing neighbors and businesses with resources and opportunities to solve community problems and build a sustainable neighborhood. In recent years, the WBNA has been successful in making solar photovoltaic panels financially feasible for many residents and business owners.

Between the summer of 2011 and the summer of 2012, the WBNA coordinated a bulk purchase of photovoltaic solar panels for 16 of its residents, becoming the first collective solar energy project in the state of Rhode Island. The WBNA purchased the panels and allowed residents lease the panels from them for the first 10 years. Because the photovoltaic panels produce a large part of each home or business' electricity, participants pay a significantly reduced utility bill, in addition to a fixed payment for their solar panels.

The second round of West Side Solar (2013) had five residents and one business participate and in this round participants owned instead of leased the panels and borrowed the funds from the WBNA. WBNA is waiting for approval for round three and has another six residences wanting to participate. Three more residents have signed up for round four. In 2014, WBNA also expects to launch a commercial scale demonstration project with a local business that has a larger roof and to launch a solar thermal program.

What You Can Do

- Sign up for a free energy audit to learn about incentives for energy efficiency appliances, lighting, and insulation measures to save energy and reduce your utility bills at home. Call Rise Engineering at (800) 422-5365 or go to http://www.riseengineering.com/energy_wise_audit.htm.
- Switch from incandescent to energy efficient light bulbs such as fluorescents or LEDs. Although efficient bulbs may cost more initially, the end result is considerable savings that pays for the cost over the life of the lamp. This is because fluorescent lighting last eight to twelve times longer than incandescent bulbs and LEDs last 40 times longer and use significantly less energy.

- Invest in purchasing Energy Star rated products to both use less energy and save money. For a list of products that have earned this certification go to energystar.gov. Financial incentives may be available through National Grid to reduce the cost of some Energy Star products.

- Consider investing in solar water heating system to generate hot water or photovoltaic panels to generate electricity for your home or business. They can be used in any climate, and can be cost-effective because the sunshine is free.

Sustainable Providence Land Use and Development Plan

GOAL
Prioritize the City's overarching sustainability goals when making decisions about public and private land use and development. Sustainable developments emphasize the creation and preservation of open space, reinforce neighborhood character and diversity, support the development of healthy and walkable neighborhoods, promote green economic development opportunities, and improve the overall quality of life for all residents.
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STRATEGIES
Application of the Sustainability Evaluation Tool in the following categories:

Transportation Choice and Accessibility.	Housing Choice and Affordability.	Economic Development.	Community Character and Collaboration.	Environmental Protection and Public Health.

Metric

- Number of development projects reviewed using the Sustainability Evaluation Tool.

Highest Priority Actions

- Provide training to City employees in using the Sustainability Evaluation Tool for evaluating proposed development projects and as well as proposed changes to existing development.
- Develop incentive programs and policies that increase the sustainability features and characteristics of existing uses of land, buildings, and other forms of development.

Introduction

Everyone and everything in our city is affected by how our land is used and developed. It determines how much green space is available for our kids to play on, how people, as well as our natural resources (such as ponds and rivers), are protected from pollution, whether or not we have spaces to grow food, and how we grow in a way that easily connects people and homes to schools, commercial centers, jobs, culture and art, and natural spaces. These conditions, distributed equitably among neighborhoods, will ensure residents are proud of where they live and will attract new residents and businesses to our neighborhoods.

In addition, the coming decades will bring higher heat days to our urban streets, increased flooding from intense rain events, and higher food prices for food grown outside our region. Sustainable land use decisions that prioritize open and green space, tree cover, transportation options, and low impact strategic development make our city more resilient to the impacts of climate change.

The Sustainability Evaluation Tool aims to embed the sustainability values of environment, economy and equity into the City's land use and economic development decision-making. The tool is intended to be used by departments to evaluate development projects based on how well they help the city to achieve our sustainability goals. We envision this tool will be used in an informal capacity at first and becoming a required evaluation tool over time. As the tool becomes integrated into the development process, more projects will meet the sustainability criteria in the matrix below.

Sustainability Evaluation Tool

Transportation Choice & Accessibility Objective: The City's Land Use and Development policies facilitate a greater number of Providence residents having more than one cost-effective, reliable, and safe transportation option to get to school, work, or for other activities.	
	How close will the project be to a stop or station for scheduled public transit (bus or rail)? Walking distance from the project's proposed location to the nearest transit stop can be calculated using RIPTA's Google Maps Trip Planner (http://www.ripta.com/trips/trips.php).
	Will the project include complete streets, or will it be located on an existing complete street?
	Will the project have an interconnected vehicle, bicycle and pedestrian network or will it be located on an existing network that is interconnected and supports walking, biking and transit access?
	Will parking be situated where it does not visually dominate the project and surrounding area from the street, where it allows easy pedestrian access to buildings (not just for those arriving by car, but all modes) and where it minimizes vehicular/pedestrian conflict? If not, will project parking be minimized through means such as shared use?
Please provide any additional information on how the project will help to ensure that all citizens have access to multiple modes of transportation for commuting and for other trips.	
Housing Choice & Affordability Objective: Ensure affordability and diversity of housing types are distributed equitably across the city and provide all residents with equal access to environmental amenities.	
	For a residential project, will it offer a mix of housing types, or will it increase the diversity of housing types within one of the specified ranges of the project as listed below?
	Will the project provide a range of housing prices accessible to different income levels, or will it increase the diversity of housing prices within the specified distance of the project location as listed below?
	Will the project include homes serving extremely low-income households or those with special needs (per Rhode Island agency definitions)?
Please provide any additional information about how the project will improve the diversity and affordability of housing choices in the host community.	

Economic Development Objective: Economic development enhances both community and ecological health.	
	Can the project be reasonably expected to create new permanent jobs within the urban services boundary or a designated growth center? (To be counted, jobs must pay wages at least 140% of the federal minimum wage: $10.15 per hour or about $25,000 per year.)
	Will the project include an education or training component for likely employees, residents, or construction workers?
	Will the project be located in an area designated or targeted for reinvestment (e.g., state enterprise zone)?
	Will the project avoid displacement by providing for the retention or relocation of any impacted businesses and/or residents?
Please provide any additional information on how the project would promote economic development and job creation in appropriate areas.	
Please provide any additional information about the project's likely fiscal impacts and benefits for the host community and the State of Rhode Island.	
Community Character & Collaboration Objective: Land use and development decisions contribute to maintain or create neighborhoods of choice among all Providence neighborhoods.	
	Will the project reuse or rehabilitate historic or other existing buildings in a manner that preserves their scale, materials, and character?
	Will the project create or enhance community gathering spaces that are open to the public?
	Does the project design (if a building) or design guidelines (if a development) incorporate building siting, architecture, and landscaping that align with and/or improve the community context in terms of public safety, walkability, lighting, trees and green space etc?
	Is the project consistent with the approved local comprehensive plan and any other place-specific plans (e.g., corridor, neighborhood)?
	Did the developer/sponsor meet with local residents and provide effective community engagement opportunities prior to and during the planning process? Did these meetings result in a community benefits agreement or another similar arrangement?
Please provide any additional information about how the project is consistent with the history and future plans of the host community. Also summarize how local residents have been engaged and their ideas, perspectives, and self-identified needs have been incorporated into the project planning, siting, and design process.	

Environmental Protection & Public Health Objective: Land use and development patterns enhance the health, environmental, and community well-being of the city and prepare us for future changes.	
	Will the project result in the clean-up and appropriate reuse of a contaminated site?
	If construction will take place, will the project appropriately reuse, recycle, or, if necessary, dispose of any materials?
	Will the project actively preserve land zoned for agricultural or recreational use?
	Will the project avoid impacts to land at and adjacent to the development site that are physically unsuitable for development, such as slopes greater than 25%, wetlands, and aquifer recharge areas?
	Will the project: (1) set aside at least 10% of total acreage as public green space, or (2) if within the urban services boundary, be located within ¼ mile of a dedicated public green space?
	Will the project meet any established sustainable design criteria (e.g., LEED, Enterprise Green Communities Criteria)?
	Will new or rehabilitated structures exceed the energy efficiency standards incorporated into the applicable state building code? (SBC-8 State Energy Conservation Code - non-residential or Rhode Island One and Two Family Dwelling Code - residential).
	Will the project provide on-site renewable energy generation or commit to purchase a portion of its electricity (or direct heating/cooling) from renewable energy sources?
	Will the project use stormwater management methods that exceed state requirements (or meet requirements if not required to)?
	If a project has a residential component, will the homes be located within ½ mile of parks, playing areas, trails, or other green space areas that are publicly accessible and can facilitate active recreation (e.g. walking, cycling, organized games)?
Please provide any additional information on how the project would contribute to the protection of the natural environment.	
Please provide any additional information on how the project would contribute to the improvement of public health, such as by encouraging active living, improving access to healthy food, or increasing the supply of healthy housing (i.e., housing free of health hazards such as lead, radon, or mold).	

Sustainability In Action

PopUp Providence

PopUp Providence is an urban place-making program that introduces interactive, artistic and cultural interventions throughout the City's 25 neighborhoods. This initiative provides financial support for quick, temporary and inexpensive interventions that engage residents, workers and visitors of all ages, and enliven the City. First year projects included bright orange Adirondack chairs on the east Riverwalk and way finding signs across the city that direct pedestrians to some of Providence's best views and locations.

The type of interventions supported by the program include a PopUp playspace, which is indoor or outdoor, recreation or activity-based, projects that promote physical interaction; a PopUp parklet, an on-street parking spaces repurposed for public space; PopUp art, which can be any form of public art; PopUp shop, which repurposed storefronts; and PopUp amenity, which includes other enhancements to the public realm. These simple interventions enhance community gathering spaces, as recommended in the Sustainability Evaluation Tool, under Community Character and Collaboration.

PopUp Providence was initiated by the City's Department of Planning and Development (DPD), with financial support from the Providence Redevelopment Agency (PRA). In only a few months, PopUp Providence has already achieved great success in enhancing the City's civic life. The program serves as both an innovative approach to reviving vacant or underutilized space and as an opportunity for local artists and community groups to test out a variety of urban interventions without significant political or financial cost

The PopUp Providence Project received a 2014 Outstanding Achievement award in City Livability from the U.S. Conference of Mayors. This award recognizes mayoral leadership in developing and implements programs that improve the quality of life in America's cities, focusing on the leadership creativity, and innovation demonstrated by the mayors. PopUp Providence Summer 2014 projects will include a Polaroid project, Providence Putt Putt, the 'I am Providence' Project, an Air Gallery and a Corrugated Community.

OpportunitySpace

The City of Providence and the Providence Redevelopment Agency recently partnered with OpportunitySpace to create a comprehensive, searchable online inventory of public sector real estate in the City. The open source technology platform aims to optimize the use of underutilized land and buildings by connecting community members, businesses and governments.

By aggregating public property inventories, sale mechanisms, development plans and incentives, OpportunitySpace seeks to make the process of buying government property less opaque, helping the City market its surplus inventory to make it easier for developers, investors, and community members to navigate the sale of public property.

OpportunitySpace is a unique development tool that will enable easier application of the Sustainability Evaluation Tool, by encouraging creative investment and diversifying land use around the city. The platform will allow the City, businesses, and members of the public to monitor public

property usage trends and to identify potential opportunities for the creative use of underutilized properties.

What You Can Do

- Attend public meetings about new developments and challenge developers to think about community and environmental sustainability.
- Support community benefit agreements when there is a proposed development being planned for your neighborhood that could create jobs for neighborhood residents, provide affordable housing, or bring other value to the area.
- Join your local park's friends group and volunteer to host activities at the park that bring out kids, families, and other neighbors to enjoy these public spaces. Learn about more opportunities at the Partnership for Providence Parks website at providenceparks.org.
- Be proactive about vacant lots or empty buildings in your neighborhood that could be rehabilitated into positive community spaces. Talk to staff in the City Planning office or at the Rhode Island DEM to find out about any future redevelopment plans or proposals that might be in the works, and work with these agencies and your neighbors to shape how these spaces are developed.

The Future of Providence

Mayor Angel Taveras and many others in the City of Providence are working to drive meaningful, measurable and sustainable action on climate change, which is one of the biggest challenges cities around the world will face. *Sustainable Providence* addresses this challenge with a vision for a resilient, healthy, and livable city. This plan has outlined broad goals for the future including: striving to reach Zero waste, turning Providence into an important regional food hub, increasing intermodal transportation, addressing storm-water challenges, and becoming more energy efficient.

This document represents the level of collaboration needed to achieve the ambitious goals set out in this plan. We are both inspired and grateful for the individuals and organizations that came together to create this plan, it has set a very high standard for the level of collaboration we wish to see in the future. Sustainability in Providence will clearly affect each and every person in the City in some way. The "What You Can Do" section in this plan is intended to encourage all residents of Providence to get involved in working towards the City's sustainability goals.

Providence will only become more sustainable with the active participation and help of individuals, businesses, non-profits, and City officials. The Office of Sustainability looks forward to working with many different people and organizations across the City to continue to measure and monitor the City's progress in our annual progress reports and to strive towards reaching our goal in each topic area: Waste, Food, Transportation, Water, Energy, and Land Use and Development. We must all work together to put this plan into action, so that Providence can be a more sustainable City today and for future generations.