Southside Green Light District
Community Wellness Plan

Draft for Discussion
March, 2010
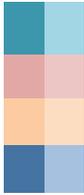
Bingham / Epp / Amabile / Harari
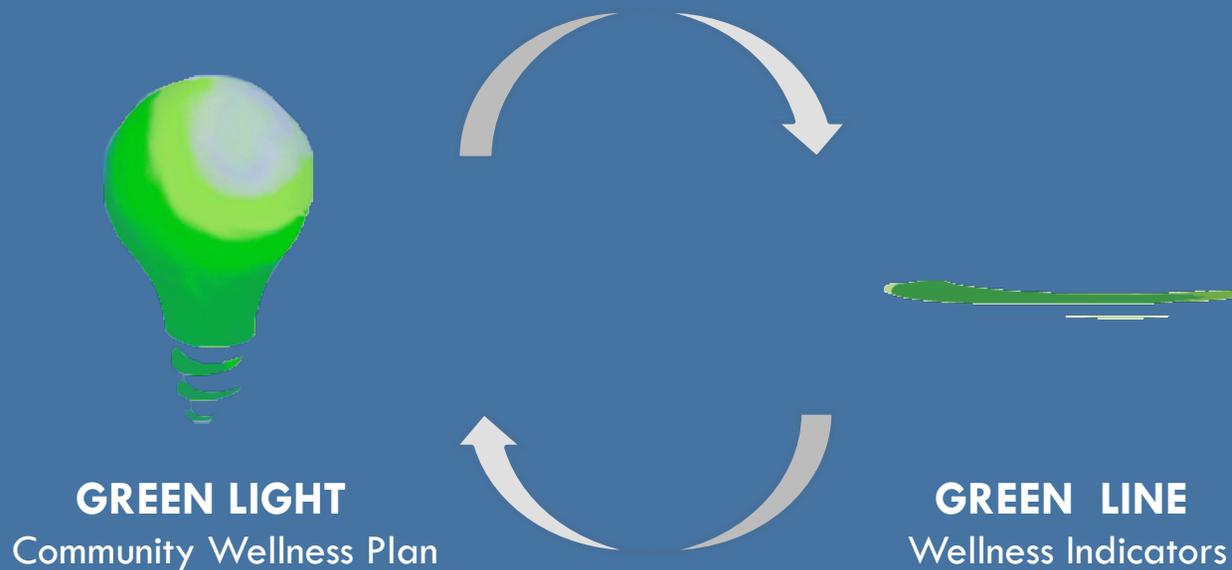Houston / Mahase / O'Connell / Vasquez / DeBlieck

Southside Green Light District

*The preliminary ideas contained herein are intended to provide a basis for discussion and will be subject to change as the Green Light District Planning process unfolds.

GREEN LIGHT
Community Wellness Plan

GREEN LINE
Wellness Indicators

What is the Green Light District Plan?
Personal health, community health, and our planet's health are all so intricately entwined that true community development cannot happen without considering these pieces in concert. The Green Light District Plan's ambitious goal is to dramatically enhance all of these constituents of well-being to make the Southside of Williamsburg the most sustainable urban neighborhood in the country – physically, economically, and socially – by the year 2020. For too long real human development has been blocked in the Southside by a panoply of social ills. In addition to gang violence, AIDS, drug-use, unemployment, poverty, property speculation, poorly performing public schools, amongst other debilitating issues, Southside residents have been burdened by an unfair share of environmental hazards. The Green Light District Plan challenges these underlying conditions by "revitalizing the capacity to dream" [1], paving the road and changing the signal to a 'Green Light' for a more sustainable future.

How will we Measure Success?
This document also sets forth a method for creating a 'Green Line' — a set of measurements which sets a bar for the success of the Green Light District Plan. The Green Line Wellness Indicators will be set by the community; residents will define the criteria for a truly sustainable neighborhood where individuals are afforded the opportunity to achieve personal well-being.

Who is Involved in the Plan?
The Green Light District Plan for the Southside of Williamsburg, in New York City, was conceived by El Puente, a community human rights institution that promotes peace and justice, in partnership with the Pratt Institute and many other community organizations.

1. Human Scale Development, Unisa Latin American Report. Manfred Max-Neef, et.. Al , 1996.

"This is an experiment, focusing on the development of the entire community from a wellness perspective, home by home, building by building- engaging the community inch by inch in the Southside, and further..."
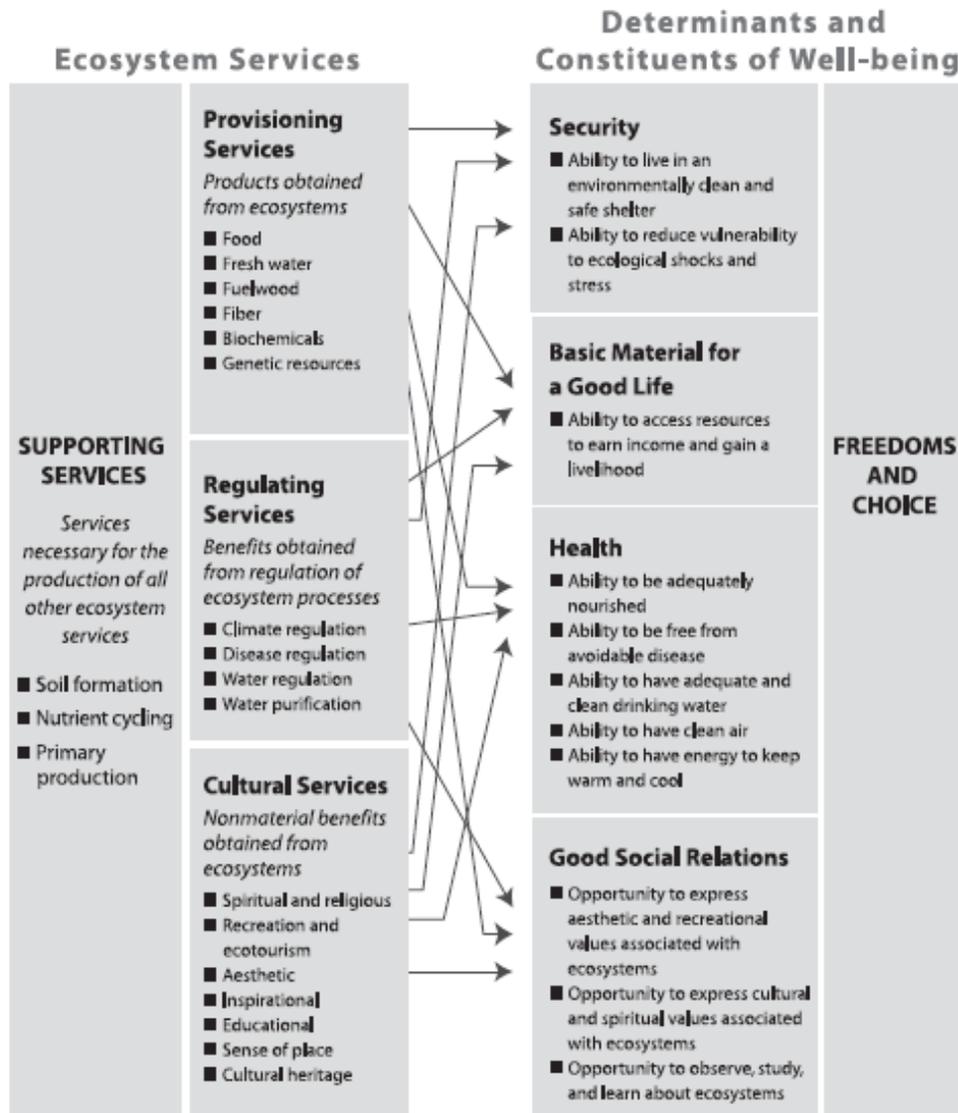*— Luis Garden Acosta (founder of El Puente)*

Guiding Philosophy

In the late 1980s, an interdisciplinary team of thinkers looking at Latin America's complex social and economic challenges developed a radical new model for development. The concept they created—"Human Scale Development"—begins with the simple assumption that "development is not about objects, it is about people." [1] The Green Light District embraces this philosophy, emphasizing human needs over material needs, and developing new approaches to strengthen the pillars of wellness in the South Side of Williamsburg.

Guided by this philosophy, the 'Green' in the 'Green Light District' is understood comprehensively: as development, that does not tax supporting ecosystems, and enhances social, mental, physical, and economic well-being.

In implementing the Green Light District, this means both recognizing the interrelationships between all of the disparate conditions that are necessary to achieve wellness, and incorporating actions that empower the community to address them. The Green Light District Plan provides a positive, transformative vision that emphasizes human well-being and environmental stewardship.

1. Human Scale Development, Unisa Latin American Report. Manfred Max-Neef, et.. Al , 1996.

GREEN LIGHT DISTRICT WELLNESS AND THE ENVIRONMENT

Ecosystem Services

Determinants and Constituents of Well-being

Provisioning Services
Products obtained from ecosystems
- Food
- Fresh water
- Fuelwood
- Fiber
- Biochemicals
- Genetic resources

SUPPORTING SERVICES

Services necessary for the production of all other ecosystem services

- Soil formation
- Nutrient cycling
- Primary production

Regulating Services
Benefits obtained from regulation of ecosystem processes
- Climate regulation
- Disease regulation
- Water regulation
- Water purification

Cultural Services
Nonmaterial benefits obtained from ecosystems
- Spiritual and religious
- Recreation and ecotourism
- Aesthetic
- Inspirational
- Educational
- Sense of place
- Cultural heritage

Security
- Ability to live in an environmentally clean and safe shelter
- Ability to reduce vulnerability to ecological shocks and stress

Basic Material for a Good Life
- Ability to access resources to earn income and gain a livelihood

Health
- Ability to be adequately nourished
- Ability to be free from avoidable disease
- Ability to have adequate and clean drinking water
- Ability to have clean air
- Ability to have energy to keep warm and cool

Good Social Relations
- Opportunity to express aesthetic and recreational values associated with ecosystems
- Opportunity to express cultural and spiritual values associated with ecosystems
- Opportunity to observe, study, and learn about ecosystems

FREEDOMS AND CHOICE

Where's the Green in Wellness?

Having a healthy, secure, socially rich life and individual well-being is not possible without the supporting services provided by ecosystems. The diagrams to the left and below illustrate this interrelationship, showing the direct connections between environmental well-being and human well-being. The Green Light District Plan emphasizes human well-being without ignoring the environment as the foundation upon which all improvements in well-being are based.

Source: UN Millennium Ecosystem Assessment

ILL-BEING → WELL-BEING
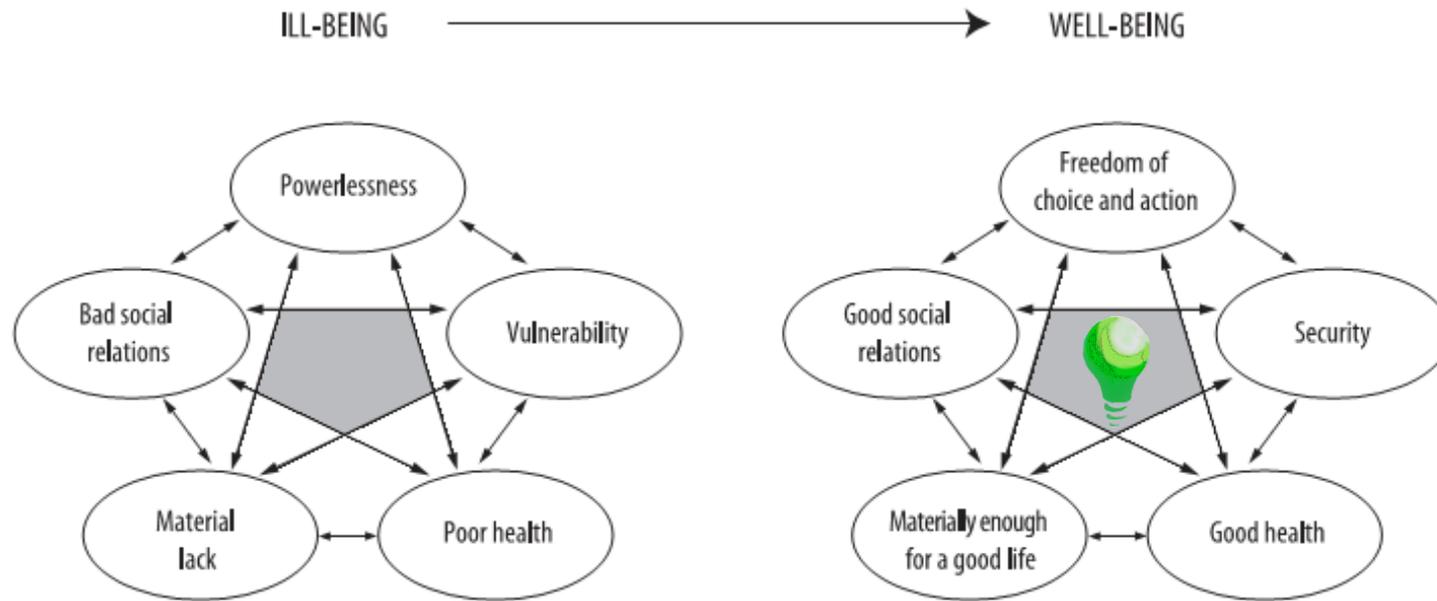
Source: Adapted from the UN Millennium Ecosystem Assessment

Moving Towards Wellness

Every program and recommendation in the Green Light District Plan aims to provide a bridge from 'ill-being' to 'well-being' by creating economic opportunities and employment, engaging the community artistically and politically, increasing the community's role in decision making and providing opportunities for community-based learning. These four strategies – employment, engagement, education, and empowerment– ensure that giving the Green Light to sustainable development benefits the whole community equitably.

GREEN LIGHT DISTRICT EL PUENTE'S TWELVE PRINCIPLES

El Puente's Twelve Fundamental Principles

MENTORING
Be bridges of growth and empowerment to each other

UNITY THROUGH DIVERSITY
Embrace who we are and affirm the many differences that strengthen and make our common humanity powerful

HOLISM
Thrive in the balance and unity of body, mind, spirit and community

SAFETY
Create relationships and environments free from physical, mental and social harm

MASTERY
Be disciplined and strive for excellence for body, mind, spirit and community

HOLISTIC DEVELOPMENT
Liberate the power of our human potential

RESPECT
Revere all life, our earth and the spirit of the universe

CREATING COMMUNITY
Build bridges of personal relationships to advance the human condition wherever we are

CREATIVITY
Be free to challenge what exists and explore a universe of beauty and possibility

PEACE & JUSTICE
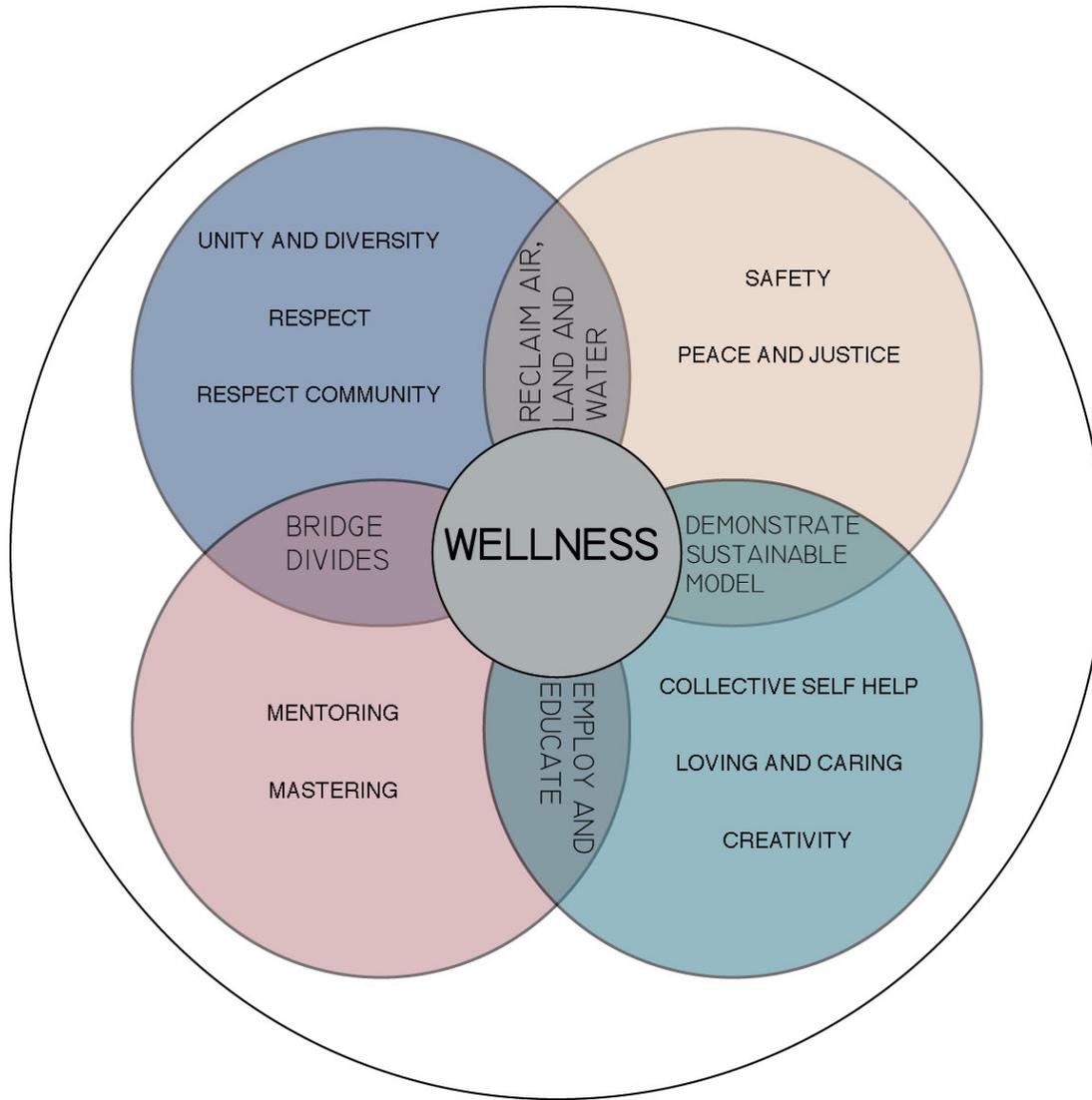Rise up for human rights, beauty, harmony and the celebration of the sacred

COLLECTIVE SELF-HELP
Use the human power of relationships to build, thrive and Together "boldly go where no one has gone before."

LOVE & CARING
Nurture the life force of community by freely giving and sharing of ourselves for the good of others

Southside Green Light District Plan
Sustainable Development Studio PLAN-653.02 Fall 2009

UNITY AND DIVERSITY

RESPECT

RESPECT COMMUNITY

RECLAIM AIR, LAND AND WATER

SAFETY

PEACE AND JUSTICE

BRIDGE DIVIDES

WELLNESS

DEMONSTRATE SUSTAINABLE MODEL

MENTORING

MASTERING

EMPLOY AND EDUCATE

COLLECTIVE SELF HELP

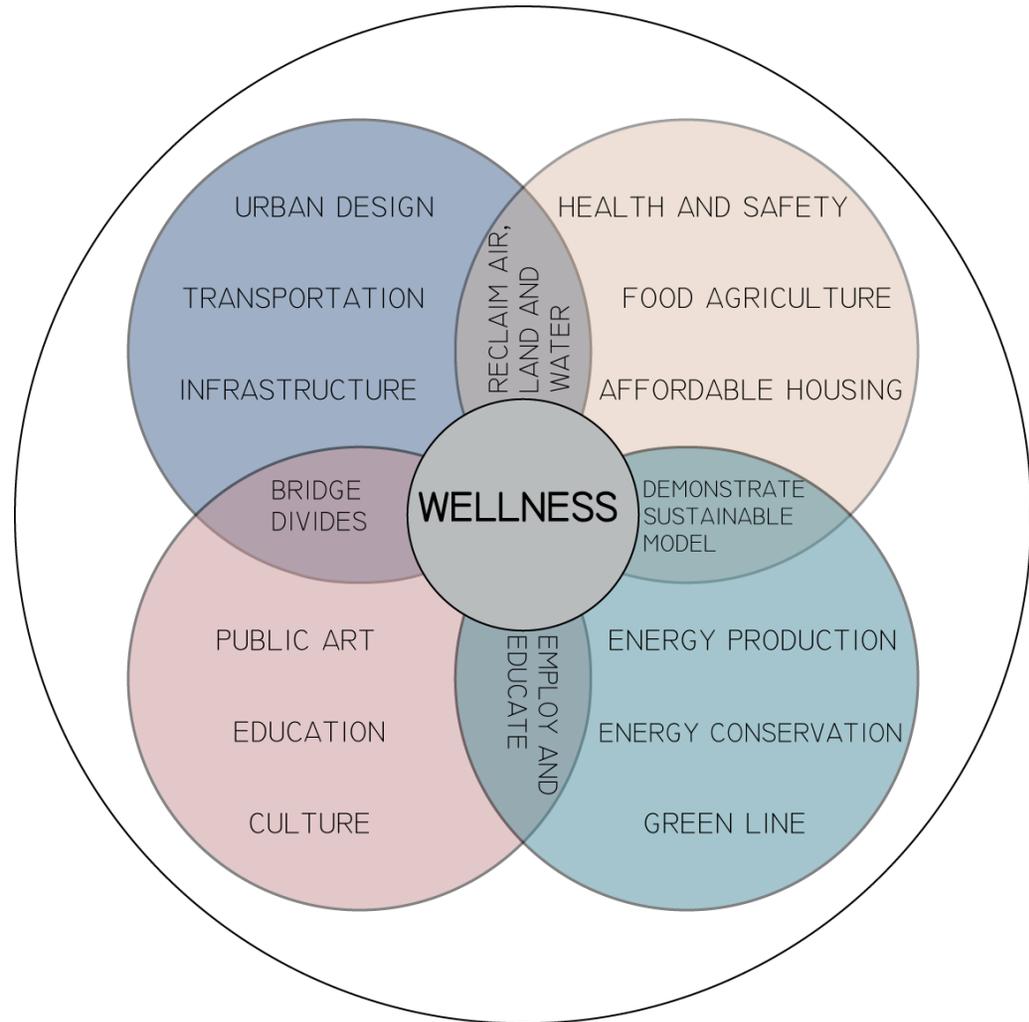LOVING AND CARING

CREATIVITY

The planning programs and goals identified in this Green Light District Plan, were informed by the twelve fundamental principles El Puente has adopted to guide and inspire its members.

Taken together, these twelve principles contribute to a holistic understanding of human well-being, and can therefore form the basis for a neighborhood level plan for human development.
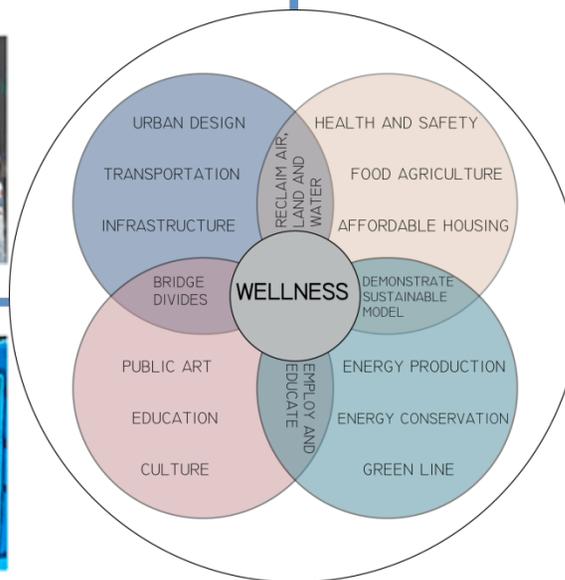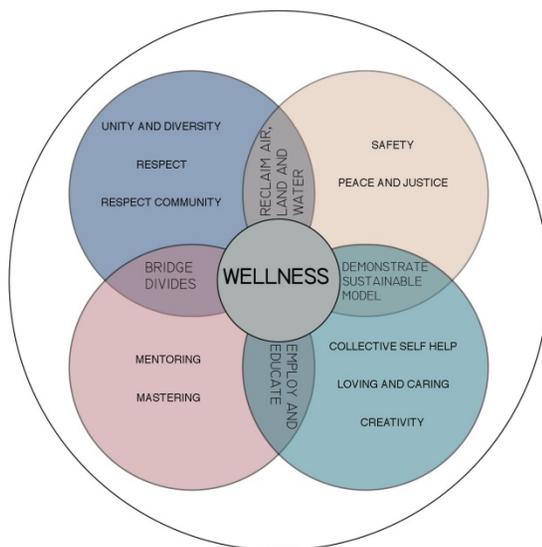
El Puente's twelve principles can be thought of as contributing elements to the plan – none of them can be considered in isolation and they all overlap to create a unified vision for holistic development.

Programmatic elements of the Green Light District Plan were framed around these twelve fundamental principles: in the diagram to the right El Puente's principles are replaced with thematic areas. Keeping community issues and assets in mind, we identified four interrelated goals: 1) bridge divides; 2) reclaim toxic air, land and water; 3) demonstrate a sustainable model; and 4) afford jobs, employment and education (these four themes are represented by the inner 'petals' on the diagram to the left). Through interventions in these areas, the Southside can create community, foster creativity, help residents to master new skills and otherwise advance the twelve principles described on the previous page.
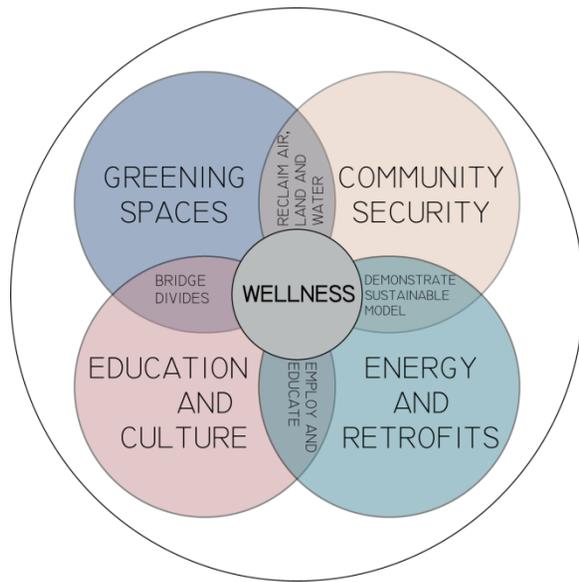
TRANSLATING PRINCIPLES TO ACTIONS GREEN LIGHT DISTRICT

The Public Realm

Health and Wellness

Transportation

Art

Food and Agriculture

Energy Production

Education and Culture

Energy Efficiency

Left diagram (WELLNESS)

- UNITY AND DIVERSITY
- RESPECT
- RESPECT COMMUNITY
- RECLAIM AIR, LAND AND WATER
- SAFETY
- PEACE AND JUSTICE
- BRIDGE DIVIDES
- WELLNESS
- DEMONSTRATE SUSTAINABLE MODEL
- MENTORING
- MASTERING
- EMPLOY AND EDUCATE
- COLLECTIVE SELF HELP
- LOVING AND CARING
- CREATIVITY

Right diagram (WELLNESS)

- URBAN DESIGN
- TRANSPORTATION
- INFRASTRUCTURE
- RECLAIM AIR, LAND AND WATER
- HEALTH AND SAFETY
- FOOD AGRICULTURE
- AFFORDABLE HOUSING
- BRIDGE DIVIDES
- WELLNESS
- DEMONSTRATE SUSTAINABLE MODEL
- PUBLIC ART
- EDUCATION
- CULTURE
- EMPLOY AND EDUCATE
- ENERGY PRODUCTION
- ENERGY CONSERVATION
- GREEN LINE

MAKE THE SOUTHSIDE OF WILLIAMSBURG THE GREENEST NEIGHBORHOOD IN THE NATION BY 2020

Alternative Energy and Retrofits	Expand local control of how energy is produced and used in both new and old buildings, reducing the community's carbon emissions, increasing affordability and creating green jobs.
Education and Culture	Engage the entire community in learning and teaching through arts and culture, transforming the Southside neighborhood into liveable and interactive urban classroom.
Community Security	Secure affordable, healthy housing, without fear of displacement, and affordable, healthy food for all residents.
Greening Spaces	Reimagine the whole built environment, integrating streets, infrastructure, open spaces, and the waterfront to create healthy, safe, and vibrant public spaces.

Image Source: Microsoft Bing Maps

Context

Southside Green Light District Plan
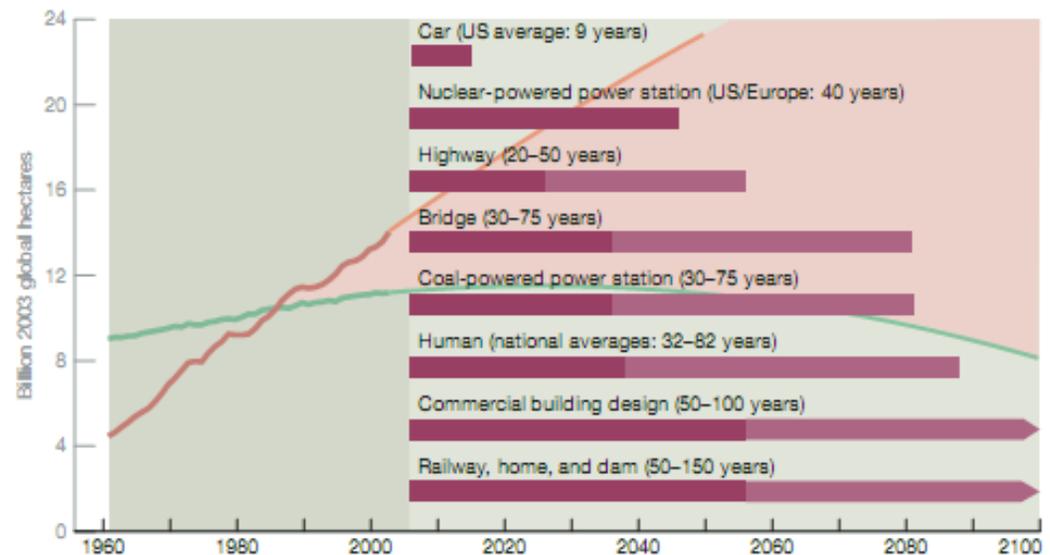Sustainable Development Studio PLAN-653.02 Fall 2009

Global Context
National Context
Regional Context
Neighborhood Context

Image Source: Google Maps

What Challenges are on Our Doorstep?

A host of environmental issues will converge in our lifetimes: climate change impacts, water shortages, increasing energy costs, and supplying food for an ever increasing global population. It is easy to be overwhelmed by these far reaching problems, but we cannot ignore the imperative to act immediately. The actions we take now will continue to have impacts for years to come and the choices made now must take dramatic steps towards resolving these global issues (see the diagram to the right). For example, a building constructed in 2009, has an expected lifespan of 50 to 100 years, exactly the same time frame in which we must drastically curtail our carbon emissions. The Southside Green Light District Plan's recommendations, laid out in this document, are made with the recognition that we must make the cleanest, most sustainable choices possible now-- there's no time to 'get better as we go'.

Fig. 31: **LIFESPANS OF PEOPLE, ASSETS, AND INFRASTRUCTURE**

Car (US average: 9 years)

Nuclear-powered power station (US/Europe: 40 years)

Highway (20–50 years)

Bridge (30–75 years)

Coal-powered power station (30–75 years)

Human (national averages: 32–82 years)

Commercial building design (50–100 years)

Railway, home, and dam (50–150 years)

Billion 2003 global hectares

Source: WWF Living Planet Report, 2006

> *"Humanity as a whole is standing on the precipice beyond which fundamental, wide-reaching changes to our systems of production and consumption will be inevitable"*- John Robinson, UBC

Climate Change Impacts

Though climate change and its impacts have been garnering substantial attention on the pages of nearly every news publication, this increase in awareness has so far failed to lead to the significant action that the situation demands.

According to the Intergovernmental Panel on Climate Change (IPCC), the atmospheric concentration of CO_2 in 2005 was 379 ppm[3] compared to the pre-industrial levels of 280 ppm[3] and carbon dioxide levels are substantially higher now than at any time in the last 750,000 years. Because the increased levels of C02 in the atmosphere reduce the amount of energy radiated out to space, the net effect is planetary warming. As scientists readily admit, the scale of this change to the composition of the atmosphere constitutes a massive experiment, the results of which we cannot predict. However, climate models and research suggest that increasing levels of C02 in the atmosphere beyond 350ppm is anticipated to cause an increase in the average global temperature of between 1.4 – 5.6 degrees Celsius before 2100. While these increases may seem small, new climatic conditions will have far reaching impacts for human life including drought, the displacement of billions of individuals living at sea level, increased damage from extreme weather events, the extinction of many species we depend on, and many others.
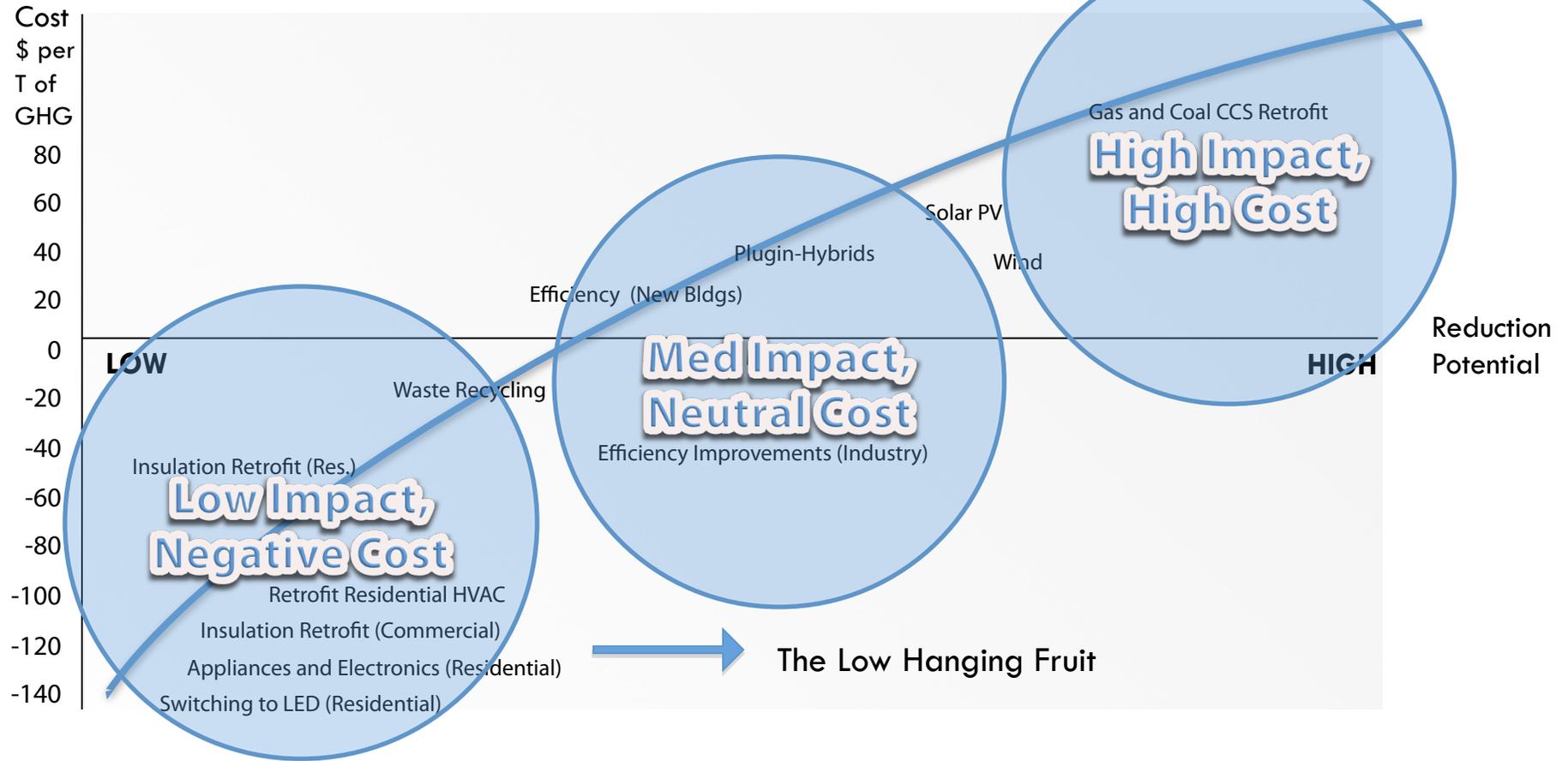
These global problems have increasingly been having local impacts. New York has already seen average annual temperature increases of 1.4 degrees Celsius and annual precipitation increases of 2.5cm[1]. As these trends continue, scientists predict increased flooding, heat stress and asthma rates in New York City [2].

Citizens and governments of wealthy nations are the largest emitters of the greenhouse gases which are creating this warming effect. As the scientific consensus of human-caused climate change becomes increasingly difficult to dispute, the onus is now on governments and individuals to take action with regard to climate change. The level of C02 reductions needed to prevent many of these effects is a hotly debated topic, though scientists are increasingly advocating for greenhouse gas reductions of 80% by 2050 [3].

Achieving these massive GHG reduction goals will require place-based strategies that reform communities and inform changes to our lifestyle. To these ends, the Green Light District Plan identifies assets in the Southside that can be leveraged to reduce the neighborhood's carbon intensity and new programs, as well the obstacles that stand in the way of wellness.

1. NYCDEP
2. Columbia Center for Climate Systems Research
3. James Hansen (NASA), quoted in "Climate Target is Not Radical Enough-study." The Guardian 7, April, 2008

GREEN LIGHT DISTRICT WHAT CAN WE DO?

Cost $ per T of GHG

Reduction Potential

Gas and Coal CCS Retrofit

High Impact, High Cost

Solar PV

Plugin-Hybrids

Wind

Efficiency (New Bldgs)

Med Impact, Neutral Cost

Waste Recycling

Efficiency Improvements (Industry)

LOW

HIGH

Insulation Retrofit (Res.)

Low Impact, Negative Cost

Retrofit Residential HVAC

Insulation Retrofit (Commercial)

Appliances and Electronics (Residential)

Switching to LED (Residential)

The Low Hanging Fruit

Approximate Figures (2030)
Adapted from McKinsey Consulting

The diagram above shows the cost of various environmental actions compared to their potential to reduce greenhouse gases. The actions shown in the lower left-hand corner are 'low-hanging fruit' that will pay for themselves quickly. These types of community investments not only preserve our global environment for future generations, but will also improve the economic health of the Southside by reducing energy costs and keeping more money in the local economy.   Communities that recognize that these 'low hanging fruit' are not just good environmentally, but also some of the most rewarding investment opportunities, will prosper. However, this diagram also shows that the actions that will have the highest impacts are also the most expensive. This document lays out an approach that begins with the low hanging fruit, but does not lose sight of the necessity for long term planning and large investments.

Global Context
National Context
Regional Context
Neighborhood Context

Image Source: Google Maps

Source: nydailynews.com

Policy Changes at the National Level

The political debate on environmental issues is changing, and politicians have begun to recognize the urgency which these problems demand. Federally, green jobs, building retrofits and clean energy production are becoming official policy. The White House Domestic Policy Council has continued to foster interagency partnerships supporting smart growth and sustainable communities. Both the Sustainable Communities Initiative and the New Energy for America Campaign recognize that these changes are place-'based' – they must happen in communities, and that they can't be dealt with in isolation. Recently, President Obama stated that the nation that is first to find a cost effective way of producing clean energy will become world economic leader. The Green Light District Plan for the Southside attempts to capitalize on this momentum and interest, while remaining a general plan that allows the community to stay ahead of new policies emerging from Washington. Whenever new Federal funding can be captured, the Southside will be ready and at the front of the line. By establishing itself as a forerunner, the Southside of Williamsburg will then provide a model for sustainable planning on the neighborhood level. The Southside is taking the first steps to becoming the first neighborhood to integrate these newly established environmental programs with education, artistic development, employment and citizen engagement, demonstrating a truly holistic approach to environmental wellness.

The Sustainable Communities Initiative is a new interagency partnership aimed at developing holistic, place-based solutions.

Global Context
National Context
Regional Context
Neighborhood Context

Image Source: Google Maps

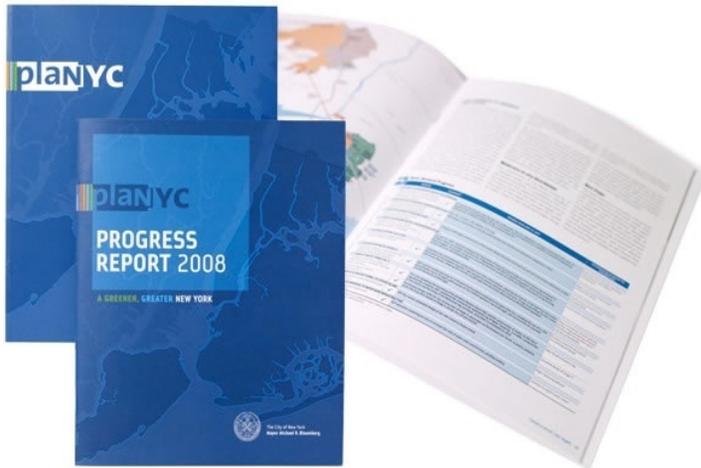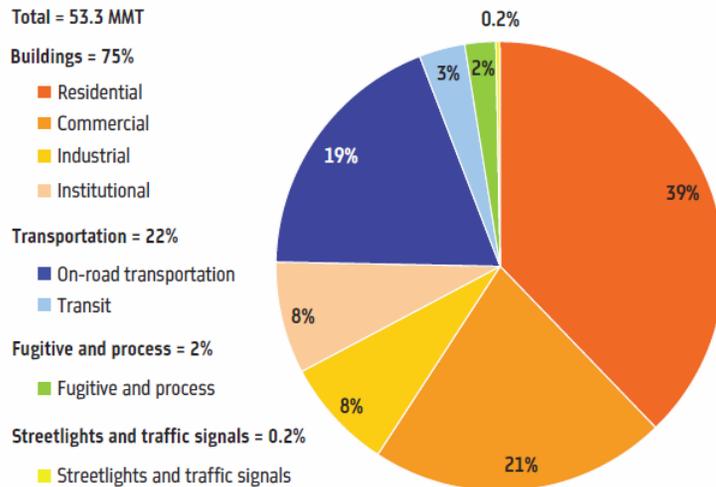Figure 2: 2008 Citywide CO_2e Emissions by Sector

Total = 53.3 MMT

Buildings = 75%
- Residential
- Commercial
- Industrial
- Institutional

Transportation = 22%
- On-road transportation
- Transit

Fugitive and process = 2%
- Fugitive and process

Streetlights and traffic signals = 0.2%
- Streetlights and traffic signals

0.2%   2%   3%   19%   39%   8%   8%   21%

Source: NYC 2009 Emissions Inventory, Mayor's Office of Long Term Planning and Sustainability (Sources of fugitive emissions include solid waste management, wastewater treatment, and natural gas and electricity distribution.

PlaNYC 2030

Projecting one million more New Yorkers by 2030, PlaNYC aspires to reduce carbon output by 30% and presents strategies in areas of land, water, air, transportation, energy and climate change. Already two thirds of NYC's emissions are generated by buildings, and PlaNYC projects that by 2030 85 percent of our energy use will come from buildings. These figures create a strong rationale for retrofitting the buildings that already existing today and the Green, Greater Buildings Bill, passed December 10, 2009 moves towards implementing PlaNYC 2030's energy goals.

Other City-Wide Planning Initiatives

A number of other planning documents deal with specific aspects of creating a more sustainable New York City. The Sustainable Stormwater Management Plan envisions green, high-performance infrastructure as the key to retaining stormwater onsite– rather than building additional 'hard-infrastructure'. The 'Greener, Greater Buildings Plan' underlines building retrofits as the lynch pin in enacting a sustainability vision and develops the ties that link building retrofits to economic development. The NYC Department of Transportation has begun creating green streets and public plazas as part of a long term plan to improve sustainable transportation. With all of these planning initiatives, New York City has challenged itself to become a leader and innovator in creating sustainable places to live.

Other Planning Documents Impacting the Southside

Over the past few years New York City has taken significant strides towards reducing its environmental impact, having released an number of innovative and forward thinking plans. Public plazas, pilot green infrastructure projects, greener commercial buildings, and bike lanes are some of the results New York has already seen from these initiatives. The Southside Green Light District Plan expands upon these various plans, and reaches beyond them to imagine a model community where green proposals can be demonstrated and are employed in increasing social wellness and equity.

The Department of City Planning has embarked on a number of recent attempts to plan for the Williamsburg area, including portions of the Southside. In addition to these efforts, community-based plans and land use plans have also been developed for and around portions of the Southside. These past planning initiatives are briefly summarized below :

Williamsburg Waterfront 197a Plan [1]

Released in 2002, the objectives of this community planning effort, in which El Puente played a key role, were centered around achieving and enhancing waterfront access and connections, as well as protecting existing clusters of industrial activity on the waterfront.

Greenpoint 197a Plan [2]

The community plan, also released in 2002, sought to lower the height and density of development allowed by zoning, to mandate the affordability of housing, increasing the percentage in new developments, to maximize waterfront access and increase open space, and to support clean, industrial and commercial businesses in Greenpoint.

Greenpoint-Williamsburg Rezoning [3]

Approved in 2005, its primary objectives include the creation of 50 acres of park space along the Williamsburg Waterfront, identifying opportunities for commercial and residential development, and using inclusionary zoning to ensure that one-third of new units created are affordable.

Greenpoint Williamsburg Inclusionary Housing Program [4]

The zoning changes proposed in the Greenpoint-Williamsburg Rezoning included the creation of an Inclusionary Housing Program. This plan supports the goal of providing one-third affordable housing by further detailing incentives and program requirements for the inclusionary housing program.

Because of programmatic restrictions, these plans were not able to address, in an integrated manner, the multiple and urgent needs facing Williamsburg: building and developing in a way that is sustainable, that creates jobs and opportunities, and that does not undermine the stability of the neighborhood, or displace existing residents. Moreover, much of the Southside is not included within the boundaries of these previous planning efforts. The Green Light District incorporates these the objectives of these plans, and integrates them with the city's long term sustainability objectives, while maintaining a focus on human wellness.

Global Context
National Context
Regional Context
Neighborhood Context

East River

Image Source: USGS 2004

POPULATION & EDUCATION

EMPLOYMENT & ECONOMY

LAND USE & DEVELOPMENT PRESSURES

ENVIRONMENTAL CHALLENGES

COMMUNITY ASSETS

BQE - 278

BROADWAY

MYRTLE AV

The Southside has a population of roughly 41,000 according to the 2000 Census. The study area divides two neighborhoods that are predominantly white, though very different from each other.

All the census tracts highlighted on the map have Hispanic populations of 50% or greater, though many have more than 80%. This band of orange has been described as the Latino Corridor by member of the El Puente leadership..

Census Tracts with Hispanic Populations of 50% or greater

Census Tract Boundaries

Study Area Boundary

Source: US CENSUS, 2000

GREEN LIGHT DISTRICT EDUCATION

Each icon represents 100 individuals

- No School
- 9th to 12th Grade
- High School
- Some College or Graduated College

East River

Source: US CENSUS, 2000

Percentage of residents in K-12 schools:
  Southside: 27%   Brooklyn: 22%

Percentage of students K-12 enrolled in private schools:
  Southside: 45%   Brooklyn: 20%

Percentage of residents in undergraduate colleges:
  Southside: 5%   Brooklyn: 6%

Source: US CENSUS, 2000

While Southside residents 25 years and older are less likely to have graduated from high school than residents to the north and south, educational attainment in the study area varies.

The Southside is also younger than Brooklyn as a whole, with a median age of 27 years. These figures underscore the importance of education and employment training as prerequisites for community wellness.

Industry Southside Residents Work In
Source: LED on the Map
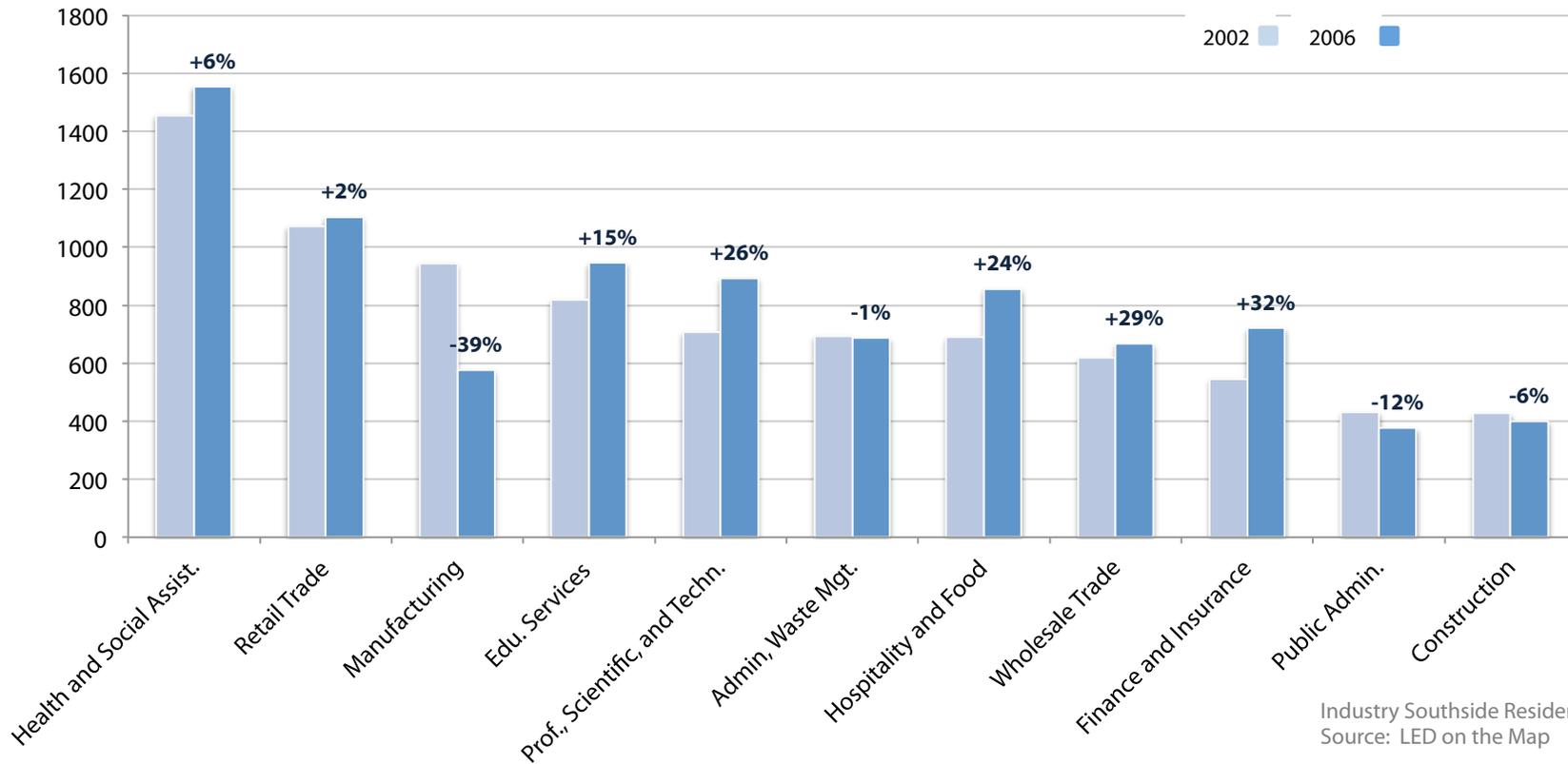
Top occupations:
1. Health care and social assistance (services)
2. Retail trade
3. Educational services
4. Manufacturing

Median Personal Income:
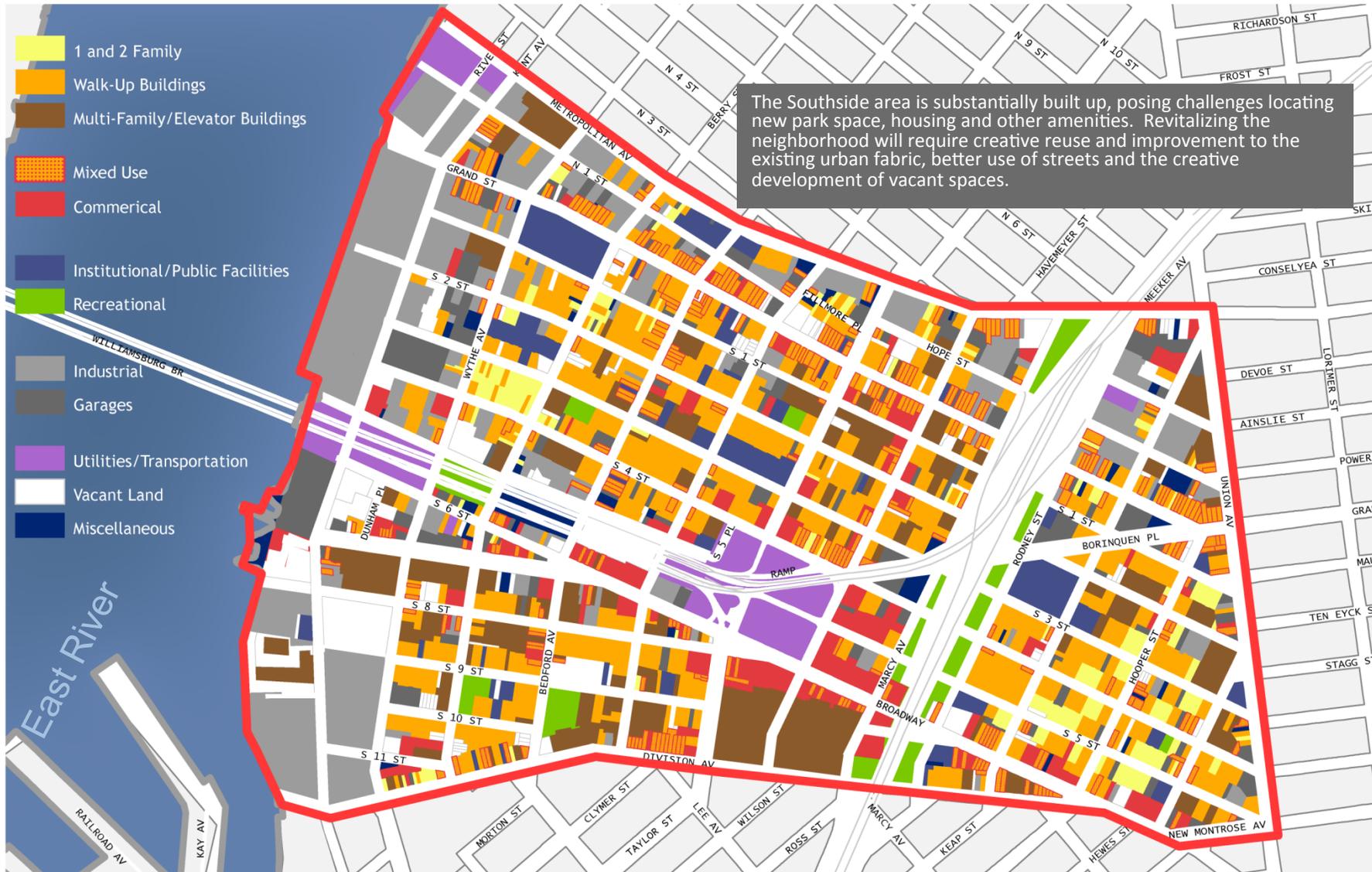$23,612 per year[1]

Change in Manufacturing Jobs Between 2002 and 2006:
-40%[2]

1. Census 2000
2. LED on the Map, 2006

A low median personal income and blue collar job loss underscore the vulnerability of the neighborhood and the urgent need for job training and the creation of new high-quality green jobs.

GREEN LIGHT DISTRICT EXISTING LAND USE

Legend:
- 1 and 2 Family
- Walk-Up Buildings
- Multi-Family/Elevator Buildings
- Mixed Use
- Commerical
- Institutional/Public Facilities
- Recreational
- Industrial
- Garages
- Utilities/Transportation
- Vacant Land
- Miscellaneous

The Southside area is substantially built up, posing challenges locating new park space, housing and other amenities. Revitalizing the neighborhood will require creative reuse and improvement to the existing urban fabric, better use of streets and the creative development of vacant spaces.

East River

Source: DCP Pluto 2009

0   195   390   780 Meters

SCALE **1:6,000**

Legend:
- 1 and 2 Family
- Walk-Up Buildings
- Multi-Family/Elevator Buildings
- Mixed Use
- Commerical
- Institutional/Public Facilities
- Recreational
- Industrial
- Garages
- Utilities/Transportation
- Vacant Land
- Miscellaneous

The majority of the buildings in the Southside are four to five story walkups and mixed use buildings. Nearly all were built before 1970 and future green programs will need to address the aging building stock. In addition to this, there is increasing pressure to change the waterfront use, from industrial to residential.

East River

INDUSTRIAL

MIXED USE COMMERCIAL / RESIDENTIAL

MED DENSITY RESIDENTIAL

INDUSTRIAL/ NEW RESIDENTIAL

NEIGHBORHOOD RETAIL / RESIDENTIAL

MED - HIGH DENSITY RESIDENTIAL

LOW - MED DENSITY RESIDENTIAL

INDUSTRIAL

Source: DCP Pluto 2009

0   195   390   780 Meters

SCALE 1:6,000
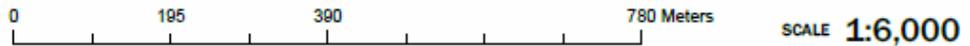
GREEN LIGHT DISTRICT HOUSING AND DEVELOPMENT PRESSURES

38% OF HOUSEHOLDS ARE RENT BURDENED, PAYING MORE THAN 30% OF HOUSEHOLD INCOME ON RENT

REAL ESTATE SPECULATION

East River

POPULATION EXPANSION

$ Changed ownership 2008 – 2009 (appro?imate locations)

? Stalled Developments (appro?imate locations)

Sources: Ownership Change: Property Shark; Stalled Developments: DOB 2009; Basemap: DCP

Housing Pressures

The Southside of Williamsburg is a neighborhood of renters; in fact, it is located in the Community District with the fewest homeowners in New York City [1]. The cost of home ownership increased nearly 600% in the area from 1974 to 2006, the highest rate of housing appreciation in NYC for 2-4 family buildings, [2] creating an affordability crisis. These drastic changes threaten neighborhood stability and have left many residents wondering if their children will be able to afford to live in the neighborhood.

Development Pressures

The Southside has become an increasingly popular frontier for developers: its community district saw the second highest number of residential building permits issued in NYC [3]. The pace of new development has cooled in 2009, and many partially completed developments have stalled. The current economic recession combined with a burst housing bubble has created an opportunity to reevaluate the impacts this building boom is having on the Southside, and to create opportunities for future development that is consistent with the community's need for housing that is affordable to existing residents.

1 - 3 . State of New York City's Housing and Neighborhoods. Furman Center, 2008.

GREEN LIGHT DISTRICT ENVIRONMENTAL CHALLENGES

106,860 VEHICLES PER AVERAGE WEEKDAY ON THE BQE

RADIAC

HEAVY VEHICLE VOLUMES ON WILLIAMSBURG BRIDGE

East River

NOISE POLLUTION FROM ELEVATED TRAINS

☢ Hazardous Waste

⬅ High Noise

▮ Elevated Train

╱ Through Truck Route

⬮ Combined Sewer Outflow

Decibel Reduction
-36 -24 -12
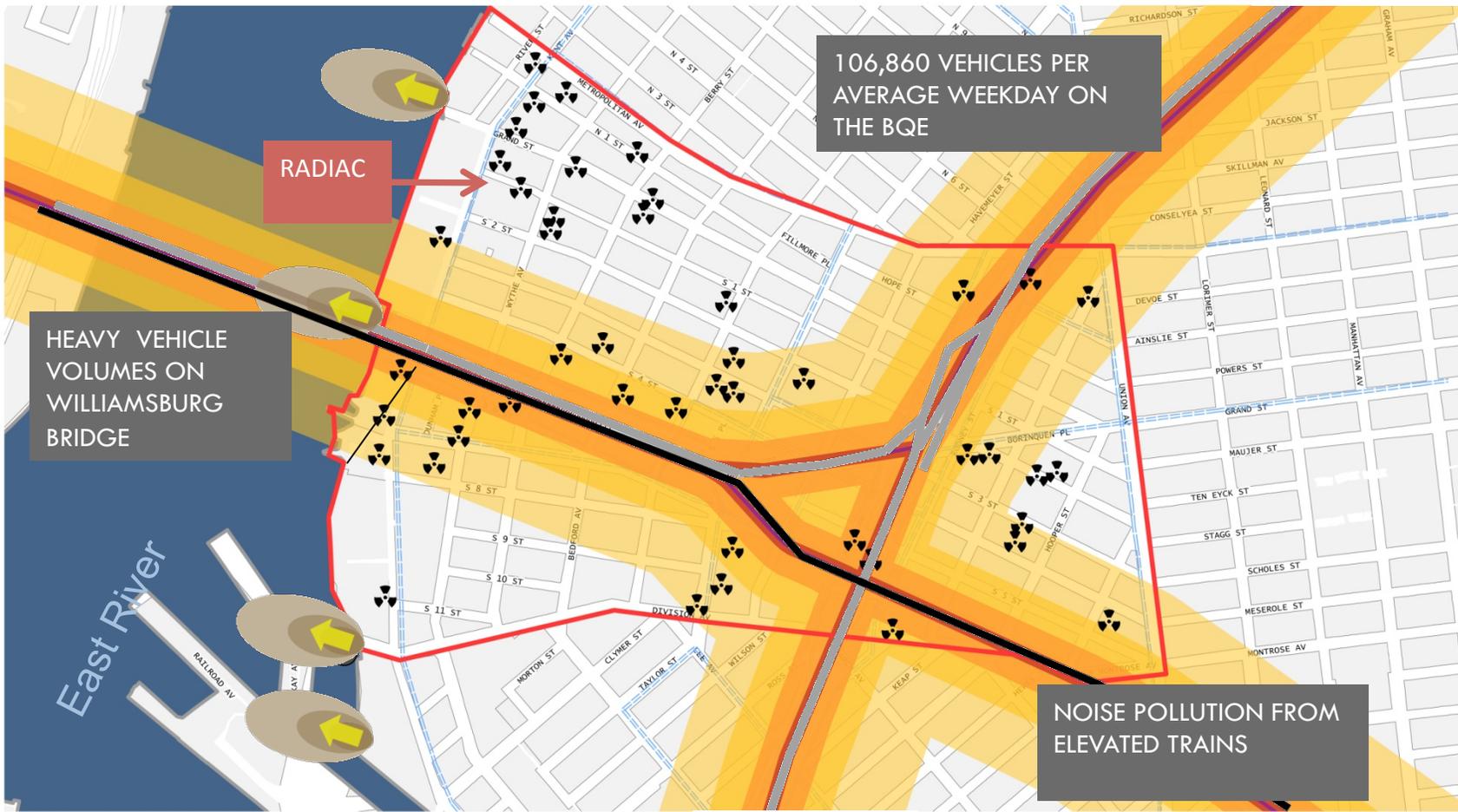
Source: EPA, DOT, Basemap from DCP

Southside Green Light District Plan
Sustainable Development Studio PLAN-653.02 Fall 2009

The Southside is heavily burdened by environmental toxins, hazardous waste, noise and air pollution from the elevated train line and the BQE, as well as heavy truck traffic on the streets. To combat these concentrated problems, the Southside needs a comprehensive approach that will enable the community to reclaim the land, air and water for residents.

Air Quality:
Residents of the Southside have reported one of the highest complaint rates in NYC by Community District. [1]

Toxics:
62% of the population residing in the Community District live within ¼ mile of a major discharger of hazardous air pollutants or toxic waste. [2]

Lead:
Southside residents live in the Community District with the 2nd highest blood lead levels in NYC [3]

Waste:
This Community District generates (and manages) the 5th most solid waste per capita in NYC [4]

Residential Carbon Emissions:
~305,491 Metric Tonnes[5] per year , or the equivalent of 4,079 tankers trucks full of gasoline.

1 -   4 . State of New York City's Housing and Neighborhoods. Furman
       Center, 2008.
5.   Pratt Institute Estimate (see Appendix for Calculations)

GREEN LIGHT DISTRICT COMMUNITY ASSETS

East River

WILLIAMSBURG BR

SCALE **1:6,900**

0   225   450   900 Meters

Southside Green Light District Plan
Sustainable Development Studio PLAN-653.02 Fall 2009
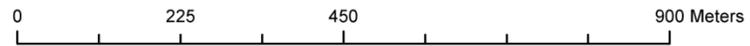
COMMUNITY ASSETS AND OPPORTUNITIES GREEN LIGHT DISTRICT

Education

2   YESHIVA JESODE HATORAH
3   YESHIVA TZEMACH TZADIK VIZNITZ
7   WILLIAMSBURG HIGH SCHOOL FOR ARCH AND DESIGN
10   JHS 49 WILLIAM J. GAYNOR
12   NORTHSIDE CATHOLIC SCHOOL AT MOUNT CARMEL

26   PS 84 JOSE DE DIEGO SCHOOL
28   PS 19 ROBERTO CLEMENTE SCHOOL
30   TALMUD TORAH OF KASHO
33   EL PUENTE ACADEMY FOR PEACE AND JUSTICE
34   YESHIVA CHASDEI TZVI
44   JHS 50 JOHN D. WELLS
49   PS 319

59   YESHIVA BETH JOSEPH ZVI DUSHINSKY
62   NORTHSIDE CATHOLIC SCHOOL AT ST VINCENT DE PAUL
70   PS 18 EDWARD BUSH SCHOOL
73   NUESTROS NINOS CHILD DEVELOPMENT SCHOOL
74   PS 132 THE CONSELYEA
78   WILLIAMSBURG COLLEGIATE CHARTER SCHOOL
80   MESIVTA NACHLAS YACOV-A YERIM
81   PS 250 GEORGE H. LINDSEY SCHOOL
82   TALMUD TORAH DNITRA
89   BE'IKVEI HATZOIN
90   PS 17 HENRY D. WOODWORTH SCHOOL
92   BNOS CHAYIL

4   WILLIAMSBURGH LIBRARY
13   LEONARD LIBRARY

46   90TH PRECINCT
48   ENGINE 221 LADDER 104

1   ODA PRIMARY HEALTH CARE CTR
15   MED&HLTH ASSC NYC
23   QUALITY MOBILE CARE
39   LAPROVIDENCIA FAMILY HEALTH CTR

102 EL PUENTE ACADEMY FOR PEACE AND JUSTICE
103 EL PUENTE HEADOFFICE
104 EL PUENTE LEADERSHIP CENTER
105 EL PUENTE MS50

Parks and Open Space

5   TEN EYCH HOUSES HDFC
6   BERRY STREET GARDEN
11   MACRI SQUARE
16   BEDFORD PLAYGROUND
17   BERRY STREET GARDEN

18   EPIPHANY PARK
19   EL PUENTE/ EARTH SPIRIT GARDEN
20   RODNEY PLAYGROUND CENTER
21   MARCY PARK SOUTH
24   MARCY GREEN CENTER
25   FRANCES HAMBURGER STERNBERG PK
27   WILLIAMSBURG BRIDGE PLGD

29   PARK
31   RODNEY PARK CENTER
32   GRAND FERRY PARK
36   RODNEY PARK SOUTH
42   PS 16 PLAYGROUND
52   MARCY PARK SOUTH
61   RODNEY PARK SOUTH
63   THELMA MARTINEZ PLAYGROUND
64   RODNEY PLAYGROUND NORTH
68   TEN EYCH HOUSES HDFC
69   BERRY PLAYGROUND
72   RODNEY PARK NORTH
76   TEN EYCK PLAZA
77   MARCY GREEN SOUTH
83   EL PUENTE/ EARTH SPIRIT GARDEN
84   PUBLIC BATH & INDOOR POOL
94   JAIME CAMPIZ PLAYGROUND
98   LA GUARDIA PLAYGROUND
99   JACOB'S LADDER PLAYGROUND
100 LOUIS SOBEL PARK
101 MARCY GREEN NORTH

Social Services

8   WILLIAMSBURG Y HEAD START I
9   PROVIDER HAMASPIK - KINGS COUNTY
14   PESACH TIKVAH
22   SPIRIT OF BROTHERHOOD
37   YESHIVA HEAD START

38   DAMON HOUSE N Y - COMMUNITY RESID.
40   THE PUERTO RICAN FAMILY INSTITUTE
41   HEARTSHARE HUMAN SERVICES OF NEW YORK
43   MERCY HOME FOR CHILDREN
47   EL REGRESO CD INTENSIVE RESIDENTIAL
50   LOS SURES SR CTR
51   SUS COMMUNITY RESIDENCE V

53   YESHIVA KEHILATH YAKOV
55   EL REGRESO - CD INTENSIVE RES REHAB
56   BFFY - PADRE KENNEDY HEAD START
58   PROVIDER HAMASPIK - KINGS COUNTY
60   HEARTSHARE HUMAN SERVICES OF NEW YORK
67   TRANSFIGURATION CHURCH
71   EL REGRESO,INC- CD OUTPATIENT CLINIC
85   PRFI PARTIAL HOSPITALIZATION PROGRAM
86   EVANGELISTIC MISSIONARY TEMPLE
87   PESACH TIKVAH COMMUNITY RESIDENCE I
88   BUILDERS FOR FAMILY & YOUTH
93   BFFY NORTHSIDE SENIOR CENTER
95   ST VINCENT'S SERVICES, INC.
96   SCO FAMILY OF SERVICES
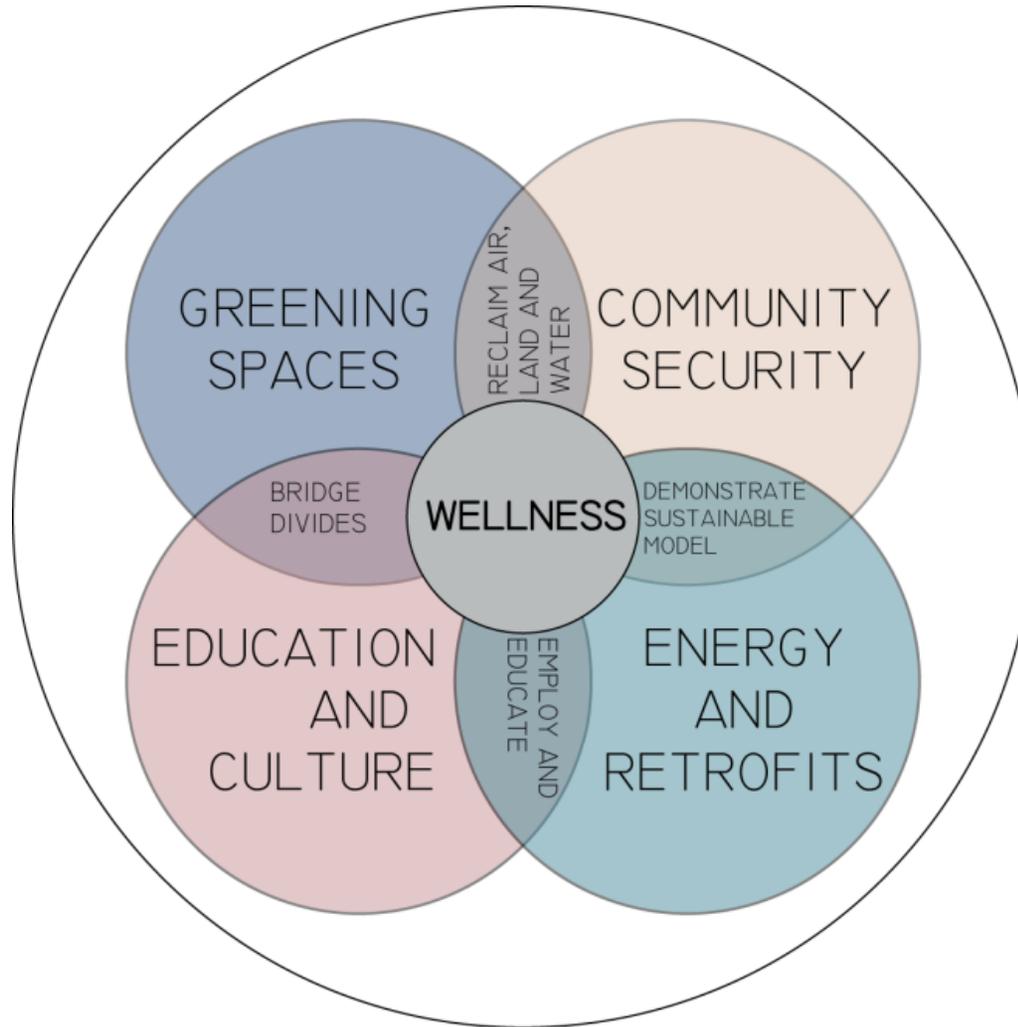
Day Care

35   NUESTROS NINOS DAY CARE CENTER III
45   WILLIAMSBURG NORTHSIDE PRESCHOOL
54   NUESTROS NINOS CDS @ STAGG ST. DAY CARE
57   UNITED COMM. OF WILLIAMSBURG DAY CARE CENTER
65   GRAHAM-WINDHAM CHILD CARE CENTER
66   JONATHAN WILLIAMS DAY CARE CENTER
75   WILLIAMSBURG NEIGHBORHOOD NURSERY SCHOOL
79   SMALL WORLD DAY CARE CENTER
91   EARLY INTERVENTION CENTER OF BROOKLYN
97   NUESTROS NINOS CDS @ WILLIAMSBURG DAY CARE

MAKE THE SOUTHSIDE OF WILLIAMSBURG THE GREENEST NEIGHBORHOOD IN THE NATION BY 2020

Alternative Energy and Retrofits	Expand **local control of how energy is produced and used** in both new and old buildings, reducing the community's carbon emissions, and increasing affordability and creating green jobs.
Community Security	Secure **affordable, healthy housing,** without fear of displacement, and **affordable, healthy food** for all residents.
Education and Culture	Engage the entire community in learning and teaching through arts and culture, transforming the Southside neighborhood into **liveable and interactive urban classroom**.
Greening Spaces	**Reimagine** the whole built environment and integrating **streets**, infrastructure, **open spaces**, and the **waterfront** to create healthy, safe, and vibrant **public spaces**.

GREENING SPACES

COMMUNITY SECURITY

RECLAIM AIR, LAND AND WATER

WELLNESS

BRIDGE DIVIDES

DEMONSTRATE SUSTAINABLE MODEL

EDUCATION AND CULTURE

ENERGY AND RETROFITS

EMPLOY AND EDUCATE

Alternative Energy and Retrofits

Education and Culture

Community Security

Greening Spaces

Alternative Energy and Retrofits

Southside Green Light District Plan
Sustainable Development Studio PLAN-653.02 Fall 2009

"By investing in energy efficiency, we are creating good jobs that can't be outsourced ... The money from those paychecks will go straight back into the local economy."
-Steven Chu (Secretary of Energy / Nobel Laureate)

The New York City Energy Policy task force has estimated that one-third of all new power in New York City by 2020 will need to be met by energy efficiency measures and small scale, local power sources[1]. These power sources, often referred to as 'distributed resources', can be increased substantially in the Southside. This section presents a roadmap for retrofitting the community, building by building, and developing a platform for alternative energy production. Accomplishing these difficult goals will require a massive effort and collaboration amongst non-profit developers, schools, property owners, residents, public agencies, neighborhood facilities, and other organizations.

The recommendations in the following section hinge on the creation of a community-controlled energy services company which would coordinate the community's energy initiatives, working on the community's behalf to reduce the neighborhood's carbon impact, lower energy costs, create local jobs, and provide a financial vehicle for conducting retrofits. Brooklyn has substantial potential for renewable energy including solar, micro-hydro, geothermal or other technologies. Brooklyn has, for example, the greatest solar potential in New York City because of the high number of un-shaded rooftops. Establishing a community controlled energy services company, in order to organize these distributive resources for maximum community benefit, would be a strong investment in promising technologies and will pay substantial dividends for the community. Together, these energy initiatives move the Southside towards energy independence and carbon neutrality providing a realistic platform for becoming the nation's least energy consumptive community by 2020.

1. New York City Energy Policy: An Electricity Resource Roadmap. New
    York City Energy Policy Taskforce, 2004.

GREEN LIGHT DISTRICT ALTERNATIVE ENERGY AND RETROFITS

Expand **local control of how energy is produced and used** in both new and old buildings, reducing the community's carbon emissions, increasing affordability and creating green jobs.

GREENING SPACES

COMMUNITY SECURITY

RECLAIM AIR, LAND AND WATER

BRIDGE DIVIDES

WELLNESS

DEMONSTRATE SUSTAINABLE MODEL

EDUCATION AND CULTURE

EMPLOY AND EDUCATE
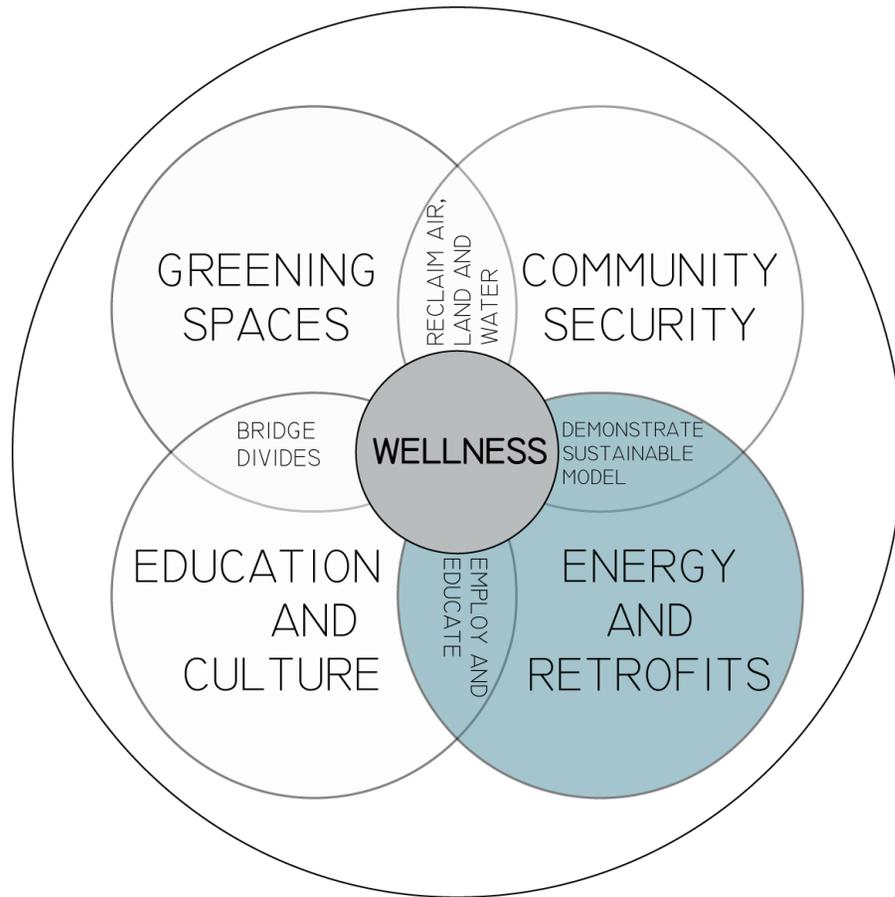
ENERGY AND RETROFITS

Expand **local control of how energy is produced and used** in both new and old buildings, reducing the community's carbon emissions, increasing affordability and creating green jobs.

● PG 44 — Develop a **community-owned energy services company** to organize distributive energy and conservation efforts, and to produce energy.

● PG 46 — Create a road map for becoming a **model renewable energy community** through innovative demonstration projects, new renewable energy regulations, and incentives.

● PG 48 — **Mobilize and train green ambassadors** to assess, audit and retrofit buildings, creating permanent, quality green jobs.

○ Use **information technologies,** including smart grid technology, to change the way energy is delivered and allow residents to make smarter decisions about energy use.

● PG 50 — Consolidate information, tools and other resources to **create a one-stop-shop** to assist residents in reducing their energy use and costs.

● PG 52 — **Use every available rooftop to increase renewable energy generation** by incentivizing and enabling property owners and developing innovative programs to acquire rooftop access rights.

● Recommendations Developed in this Report

○ Recommendations for Further Consideration

GREEN LIGHT DISTRICT ALTERNATIVE ENERGY AND RETROFITS

Expand **local control of how energy is produced and used** in both new and old buildings, reducing the community's carbon emissions, increasing affordability and creating green jobs.

● Develop a **community-owned energy services company** to organize distributive energy & conservation efforts, and to produce energy.

Residents

Community Organizations and Partners

Energy Suppliers

Home Audits

Energy Conservation

Renewable Energy

Community Owned Energy Services Company

Resources and Information

Employment and New Business

Healthy Homes
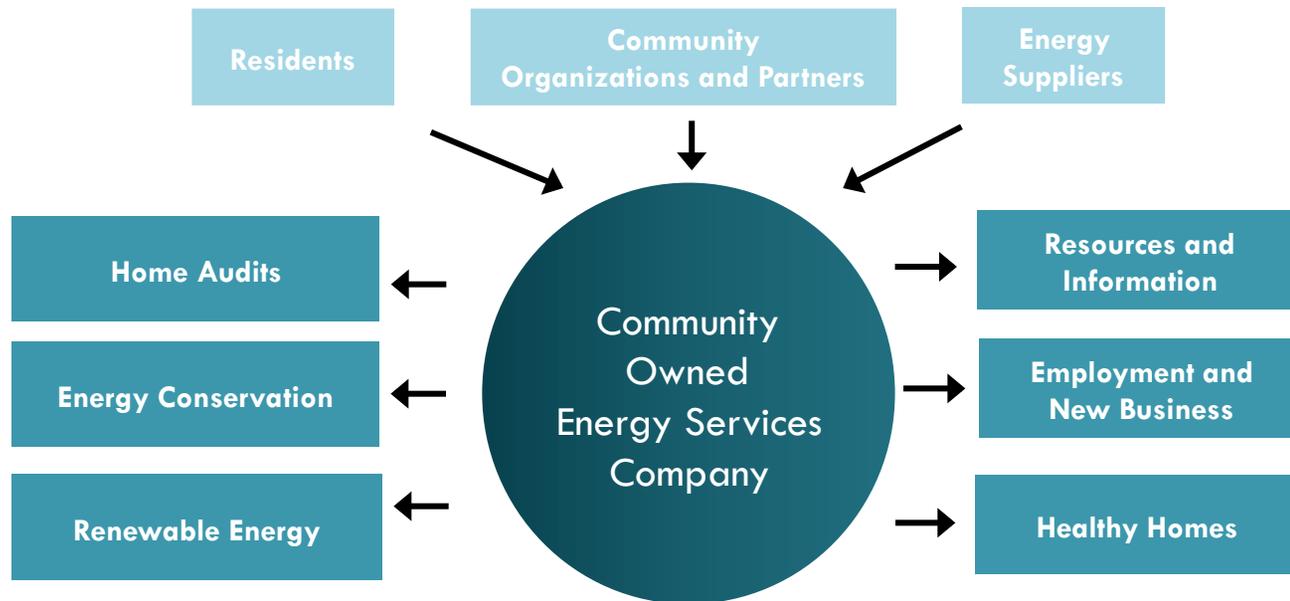
General Description

A community-owned energy services company will act as a delivery vehicle for a host of energy related initiatives: from supplying energy, to financing retrofits, to providing information and expertise, to organizing distributive energy production and conservation efforts. This utility will offer residents and businesses another, more responsive and environmentally-sensitive option for purchasing power, keeping investment in the community. Unlike a regular utility, a community-owned energy services company will be mandated to *reduce* community wide energy use and would serve foremost as an organizer and local hub, combining several energy related functions in one entity. *(see image to the left).*

The most crucial role of a community-owned energy services company is financing and delivering energy retrofits : an upfront financing model where properties are retrofitted at no cost to the owners or tenants will enable the large scale retrofitting of the entire neighborhood. Under this model, improvements such as efficient showerheads, new mechanical systems, air sealing, and efficient heating and hot water boilers are paid for upfront by the utility. Costs are then paid back by the owners or renters on their monthly bills, but are compensated for by the new energy savings. After the payback period is completed, the building owner is the sole proprietor of the energy cost savings. The company will provide information to homeowners on the incentives, loans and grants that are available through city, state and federal programs.

Rationale

Managing and implementing all of the energy company's programs will generate substantial local employment as well as opportunities to deploy state-of-the-art energy efficient materials and technology. The energy services company's programs help create a healthier community (reduced and cleaner emissions) and save residents money (through home audits), reducing the cost of living and helping to maintain maintain affordable units.

Project Partners and Implementation

The energy services company will require coordination with NYSERDA, the Public Service Commission, ConEdison, National Grid, and New York Power Authority. It is important to secure businesses and property owners with large portfolios, including landlords and non-profit organizations, as customers . The utility can: identify existing local contractors who can be employed in delivering energy services; assess sites and potential energy output for renewable energy; identify financing opportunities under existing programs, such as the CPC Green Financing Initiative; establish target blocks and buildings for retrofits and launch an energy awareness campaign. These first steps would form the basis of a local energy plan which the utility will implement.

Example

Co-Op City in the Bronx, with a population roughly equal to that of the Southside, owns and manages its own power plant. By controlling the generation of energy, Co-Op City is fully self-sufficient and is able to sell excess power generated back to Con Ed, providing a new revenue stream.

Source: Environmental News Service Newswire.

Linkages

The various programs implemented by a local energy utility will impact local health and education (through training). The utility will also contribute to workplace wellness both by directly creating new, quality, locally controlled employment opportunities and indirectly increasing local employment through investments made by the energy company in community-based firms.

GREEN LIGHT DISTRICT ALTERNATIVE ENERGY AND RETROFITS

Expand **local control of how energy is produced and used** in both new and old buildings, reducing the community's carbon emissions, and increasing affordability and creating green jobs.

● Create a road map for becoming a **model renewable energy community** through innovative demonstration projects, new renewable energy regulations, and incentives.
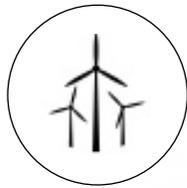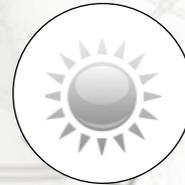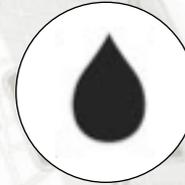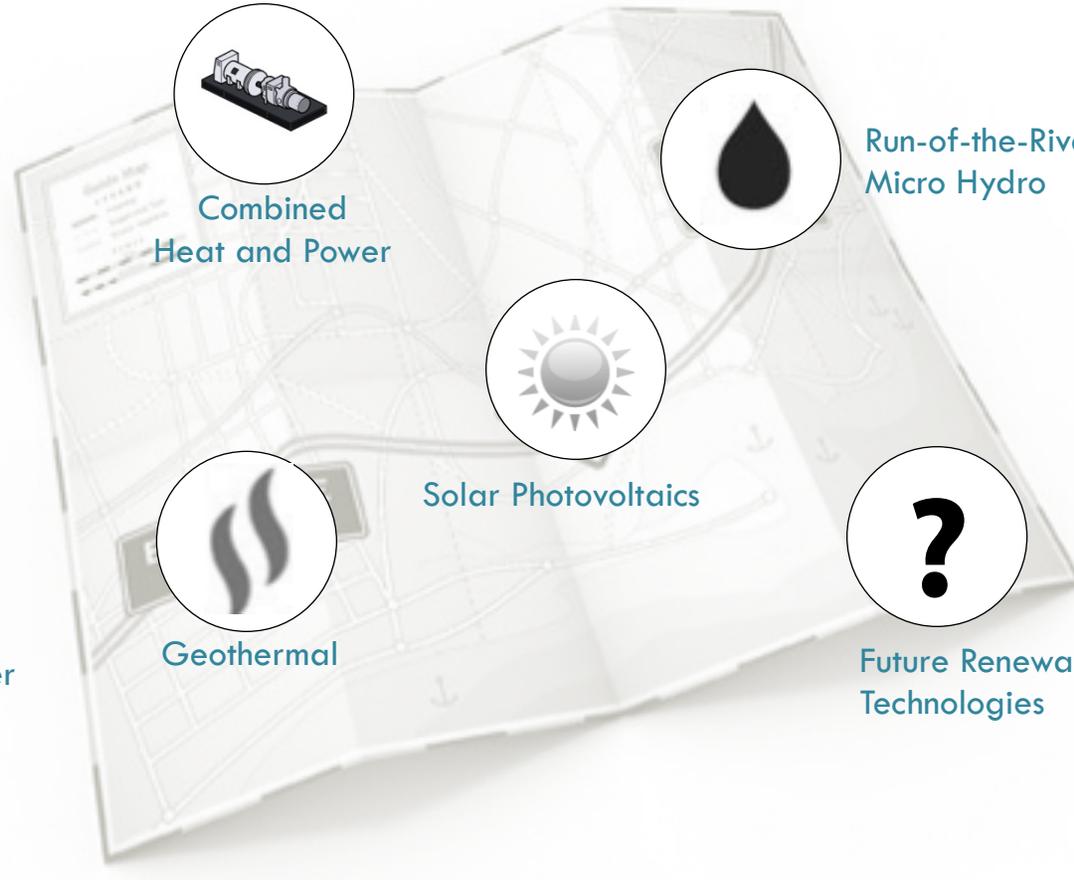
Small Scale Wind

Combined Heat and Power

Run-of-the-River Micro Hydro

Solar Photovoltaics

Solar Hot Water

Geothermal

Future Renewable Technologies

General Description

As the Southside moves toward becoming a model renewable energy community, it will be critically important to develop a roadmap to green energy. The Green Light District energy plan depends on the creation of a new network of small-scale power, with distributed energy production at different sites. The roadmap will identify all of the potential opportunities for renewable energy production within the Southside and will also locate appropriate sites for demonstration projects.

Rationale

This roadmap will not only inform future decisions for the Southside, it will also provide a plan that other communities around the nation will be able to replicate in planning for more sustainable energy use. The roadmap will be particularly important for communities pursuing new regulations to require or at least incentivize increased renewable energy production on a local scale. The demonstration projects pursued will garner attention and galvanize the support needed to fund and maintain the new programs.

Example

Clean Distributed Generation (DG) is discussed in plaNYC, which calls for agency cooperation in reaching a target of at least 800 MW of Clean DG by 2030. Scaled for the Southside, the path outlined by plaNYC to remove the financial, technical and procedural barriers to DG, will

inform the roadmap.

Project Partners

Designing the network that will best harness the distributed generation plan for the Southside will require the coordination of a wide range of city agencies and with existing providers like ConEdison, National Grid and New York Power Authority. In addition to this, the long-term roadmap to Clean Distributed Generation – which will utilize rooftops, backyards and even the East River – will require the support of city, state and federal agencies.

Costs

The greatest cost associated with the roadmap will be the development and construction of the demonstration projects. However, the distributed generation projects should pay for themselves within a 3 to 5 year period. The initial survey required to identify appropriate sites for local distributed energy production will require community input as well as technical assistance from energy developers and other experts.

Linkages

The roadmap will be the primary source for identifying the potential linkages between and among the programs supported by the Green Light District. At this stage, the community can design the roadmap to green energy in to create and enhance the possible linkages that are most important for the Southside's future – from jobs creation to educational opportunities.

Expand **local control of how energy is produced and used** in both new and old buildings, reducing the community's carbon emissions, increasing affordability and creating green jobs.

● **Mobilize and train green ambassadors** to assess, audit and retrofit buildings, creating permanent, quality green jobs.

Source: Sustainable South Bronx

General Description

This program will identify community members interested in careers related to energy retrofits or energy audits or local home-improvement contractors who would like to expand their skills in this cutting edge field. These residents will be trained in skills such as installing energy efficient appliances and technology; performing energy audits; weatherizing buildings; upgrading homes with high performance materials like windows and insulation, etc. While providing these services that will save residents and property-owners money, the ambassadors can also engage and inform clients of other sustainable issues and the goals of the entire Green Light District project.

Rationale

With the loss of manufacturing jobs within the community, this program will introduce residents to an expanding field. At the same time, the program works to cultivate a workforce who will be able to help improve the energy performance of the neighborhood's buildings. The Green Light District's goals related to retrofitting and upgrading will require a labor pool and these workers should come from within the community. If possible, they should be trained here as well.

Examples

The Community Environmental Center has been providing weatherization and energy audit services for 15 years. Although they are a service provider and not a trainer, they have partners such as SolarOne and Green City Force that train people from various backgrounds in energy assessments, photovoltaic installation, waste-reduction and recycling, etc.

Project Partners

Partnerships could be developed with: potential training entities (community colleges, non-profits, etc.); future employers for the ambassadors; workforce development agencies (federal, state, local levels).

Costs

The costs depend on the methods used to train potential ambassadors. Developing a new training program at El Puente – or another of the local community based organizations – is likely to cost more than finding an established training entity to set up a campus in the Southside.

Linkages

Having completed the training, and armed with new skills, these ambassadors should be given priority in being hired to retrofit the existing buildings within the Green Light District.   As ambassadors visit buildings throughout the community to audit and upgrade buildings they will be engaging and educating residents and property owners about the larger Green Light District project.

Expand **local control of how energy is produced and used** in both new and old buildings, reducing the community's carbon emissions, increasing affordability and creating green jobs.

● Consolidate information, tools and other resources to **create a one-stop-shop** to assist residents in reducing their energy use and costs.
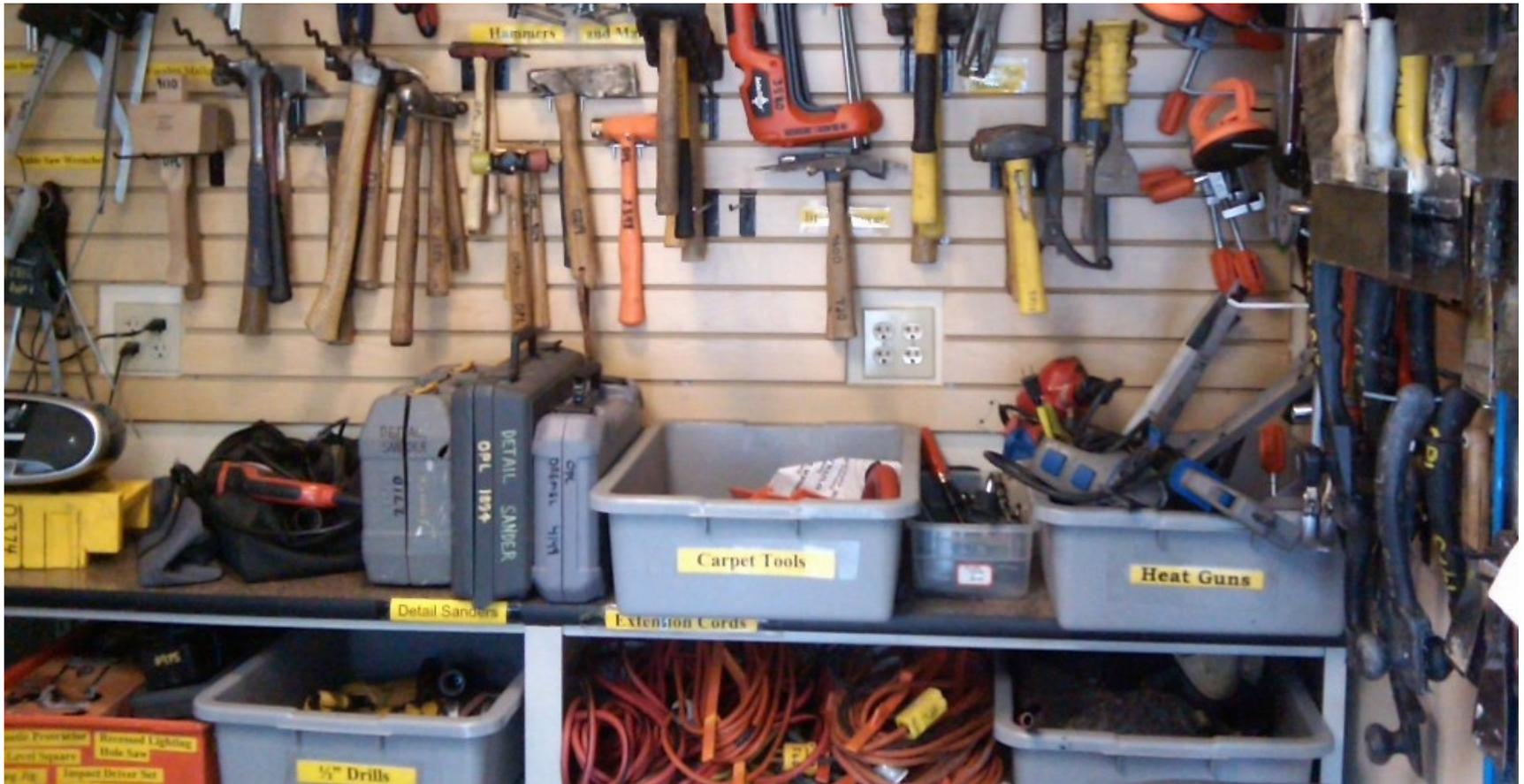
Source: OaklandBerkleyJournal.com

Equipment at a community tool shed, similar to what will be available at the one-stop-shop.

General Description

This "one-stop-shop" will be a lending library, a community tool shed, a referral center and a place for networking and sharing resources. Instead of checking out just books or movies, patrons may check out tools and supplies for do-it-yourself-scale projects. Visitors can identify opportunities for applying emerging technologies and access local expertise. This will also be a distribution and collection point for the household assessment toolkits for measuring household toxicity and wellness. The one-stop-shop may also consider developing an electronic space for information sharing.

Rationale

One element of the Green Light District Plan is to foster energy savings through efficiency. The plan also emphasizes education and empowerment of community members. A central location or "hub" for information gathering and networking will educate and empower residents interested in creating a more healthy, efficient, and organized community from the bottom up while also being cost effective and collaborative.

Examples

Lending libraries and referral centers successfully exist throughout the United States. This "one-stop-shop" is a more comprehensive program that serves multiple functions.

Project Partners

New York State Energy Research and Development Authority (NYSERDA), Brooklyn Public Library, other community-based organizations, New York City Department of Environmental Protection (DEP).

Costs

The costs may be incurred with a need for staffing, for rented space, for the purchase of materials and resources, etc. Funding could be generated through grants , membership dues, usage fees.

Linkages

This "one-stop-shop" can be used to coordinate programs relating to employment, energy efficiency, safety and hazard aspects, and community ownership on multiple levels. This program is not only a physical place for accessing resources it is a community building effort that will help educate and empower the community.

GREEN LIGHT DISTRICT ALTERNATIVE ENERGY AND RETROFITS

Promote **energy self-sufficiency** and local control through on-site energy production, home retrofits, and workforce development.

● **Use every available rooftop to increase renewable energy generation** by incentivizing and enabling property owners and developing innovative programs to acquire rooftop access rights.

Solar Thermal Hot Water Installation in Brooklyn
Source: Quixotic Systems, Inc.

Rooftop Farming in Brooklyn
Source: rooftopfarms.org

General Description

The Southside's rooftops present a huge untapped opportunity. The 1,147,572 square feet of unused rooftop space in the community can be used for the installation of solar photovoltaic systems, solar thermal systems (for delivering hot water), wind turbines and for other renewable technologies[1]. Rooftops can also be employed for urban agriculture, can be painted white to reflect light to mitigate urban heat island effect, and can be used for stormwater retention. The upfront costs of taking advantage of these opportunities, while not excessive, do pose a challenge: individual property owners are unlikely to undertake these initiatives on their own.

The creation of mechanisms to acquire rooftop access rights lets both property owners and the community mutually benefit financially from these underutilized spaces. In return for the right to use a rooftop, property owners could be offered a fixed annual amount, set out in a specialized lease negotiated with the property owners. Much like a 'community land trust', acquiring these rights on a large scale will result in the creation of a 'community roof top trust' to serve public purposes.

Rationale

Allowing property owners to sell their rooftop access rights allows both owners and the community to benefit by taking advantage of presently unused space. Using rooftop space has the potential to drastically reduce the Southside's environmental footprint by producing green energy and food locally.

1.DCP PLUTO, 2009
2.http://www.pv-tech.org/news/_a/
shout_it_from_the_rooftops_cpuc_approves_southern_california_edison_500mw_/

Example

Property owners have long recognized the value of their rooftop space, and there are many examples where space has been leased to utilities for cellphone towers and other uses. The California Public Utilities Commission and Southern California Edison have been leaders in promoting the use of rooftops for renewable energy– they plan on installing 250MW of rooftop photovoltaic panels in the next five years on lease roof space[2].

Implementation

The proposed community-owned energy company would acquire the rooftop rights on behalf of the community. The energy company will be responsible for identifying prime locations, lease negotiations, and the installation and maintenance of rooftop uses. Key partners include property owners, institutions and government agencies which own and operate buildings with large, accessible roof-space. Coordination with the Department of Buildings, the Department of City Planning, and other agencies will be required to ensure that rooftop installations comply with regulations.

Linkages

Beyond advancing the energy goals of the Green Light District Plan, acquiring rooftop access rights creates the space and opportunities for increasing food security, mitigating storm water runoff (through green roofs) and improving the physical surroundings of building occupants. Both white and green roofs reduce the urban heat island effect and lower operational energy costs. A 'rooftop trust' could also create significant job opportunities in the community.

Alternative Energy and Retrofits

Education and Culture

Community Security

Greening Spaces

Education and Culture

Southside Green Light District Plan
Sustainable Development Studio PLAN-653.02 Fall 2009

"Education is our birthright; let us not take it lightly. We must weed out the insecurities within the minds of our people."

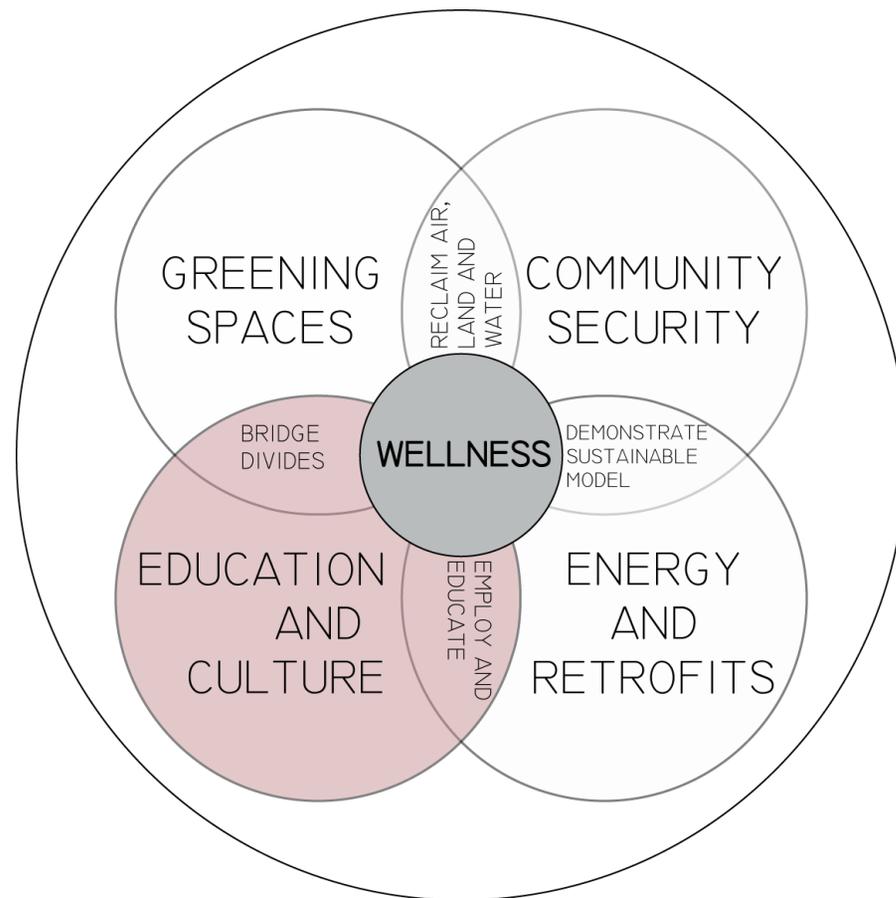*-Frank Lopez Gonzales, graduate of El Puente Academy for Peace & Justice*

In keeping with El Puente's commitment to education, culture and the arts, the Green Light District will support and build upon existing curricula and public art programs to continue transforming the Southside into a "Living Classroom," engaging all ages in an immersive educational experience. In addition to already successful local programs in public art and education, this plan proposes a new curriculum that challenges both students and residents to define and enact community wellness.

Including public art in the built environment has enormous value, both aesthetically and as an effective tool to communicate ideas and information. As previous experience in the community has shown, public art installations or painted murals raise awareness and engage the community, creating new stakeholders for new ideas. The type of sustainable community proposed by the Southside's Green Light District Plan will require lifestyle changes and will need an informed and willing community to adopt them.

By reaching out to multi-generational constituents in the planning stage and creating a diverse range of stakeholders, the sustainable future and community wellness will be ensured for the Southside. The creation of the Green Light District in the Southside provides a unique opportunity to build leadership into the educational environment. By fostering new leaders within the schools, who may lead data collection efforts, learn food production, or manage public art projects, a new generation of stewards will be identified. It is these new leaders who will carry the neighborhood plan forward with support from within the ranks of the community and educational system.

Engage the entire community in learning and teaching through arts and culture, transforming the Southside neighborhood into a **liveable and interactive urban classroom**, serving all age groups.

Engage the entire community in learning and teaching through arts and culture, transforming the Southside neighborhood into a **liveable and interactive urban classroom**, serving all age groups.

(7) Create an innovative **Green Academy**, with a core curriculum rooted in community sustainability, training and manufacturing of green technology products.

(8) Incorporate **place-based environmental education** into existing school curricula, developing lesson plans that speak to the issues of the Southside and advance the goals of the Green Light District Plan.

(9) PG 58 Establish an educational program that would create a clear path **from pre-natal care and parenting instruction, to higher education**, linking existing community based organizations such as Nuestros Ninos and El Puente's Academy.

(10) Train and empower a new generation of leaders in sustainability with the capacity to act as **'citizen scientists'** to collect data on the health and state of the community on an ongoing basis.

(11) Ensure **life-long opportunities** for Southside residents to increase their skills and capacities in emerging sustainable technologies through adult education and afterschool programming.

(12) Create a community-based **multipurpose cultural space** and information center to promote local artists and increase awareness of community issues.

(13) PG 60 Design and display **public art** throughout the Southside that will **communicate conditions in the community** in a dynamic and emotionally engaging way.

GREEN LIGHT DISTRICT EDUCATION AND CULTURE

Engage the entire community in learning and teaching through arts and culture, transforming the Southside neighborhood into a **liveable and interactive urban classroom**, serving all age groups.

9 Establish an educational program that would create a clear path **from pre-natal care and parenting instruction, to higher education**, linking e?isting community based organizations such as Nuestros Ninos and El Puente's Academy.

The map to the right shows the location of schools and daycares in the Southside and visualizes stronger ties and a more direct path between them.

General Description

Beginning with prenatal care and parenting instruction, establish an educational path that would guide Southside families from birth, to early childhood education such as day care, through to higher education in college or a trades program. This path would be designed to fit individual family needs and interests, while at the same time assessing the curricula and capacity of the existing schools in the neighborhood and the ways that they interact with one another. These links will help to create an educational experience that is continuous and holistic.

Rationale

Education is the most cost effective way to improve individuals' quality of life. When compared to those having earned a high school diploma, people who drop out of high school are 3.5 times more likely to be incarcerated and are less likely to be employed, thereby earning less over a lifetime. The mean earnings of Latino young adults who earn a high school degree are 43% higher than those that drop out. [1]
Investing in an educational platform that considers education as a continuous event in the life of a child and not as independent fractured segments can be an effective way to guarantee and improve retention, attendance and competition rates as well as quality education. Increasing allocations for universal early childhood activities, from conception through entry into kindergarten is the first step in improving educational opportunities.

Example

Harlem Children's Zone (HCZ) is a New York City based program that has been recognized globally as a successful "Cradle to College to Community Building" path.

Project Partners

Primary partners will include: the existing community organizations focused on education and health. Hospitals in the city could provide parent training instruction and pre-natal care, while programs like Head Start would work all schools, including PS 19 Roberto Clemente School, PS 84 Jose De Diego, El Puente Academy for Peace and Justice, etc. Supporting partners will be the New York City Board of Education and other institutions that develop educational frameworks such as Teacher's College, CUNY and Harvard. Parent-teacher associations should also be thought of as stakeholders and partners.

Costs

The initial investment and commitment would be for program development, administration and faculty required to create this holistic and continuous educational platform. Funding sources may include the Soros Foundation, the Clinton Foundation, the Ford Foundation, the Bill and Melinda Gates Foundation and other philanthropic groups interested in funding innovative educational projects.

Linkages

Developing a path for families to follow from pre-natal and early childhood programs to higher education will allow the community to track the progress of these children. Data collected can feed into the Green Line indicators project., described later in this document (see pg 98).

[1] Whatever It Takes: How Twelve Communities Are Reconnecting Out-of-School Youth, American Youth Policy Forum, Washington ,DC.

Engage the entire community in learning and teaching through arts and culture, transforming the Southside neighborhood into a **liveable and interactive urban classroom**, serving all age groups.

13 Design and display **public art** throughout the Southside that will **communicate conditions in the community** in a dynamic and emotionally engaging way.

Top Image: Mural in the Southside
Bottom Image: Billboard in Manhattan showing GHG emissions.
Source: know-the-number.com

Living Light, designed by Soo-in Yang and David Benjamin, is an interactive sculpture in Seoul, South Korea, that displays current air quality conditions with light projected on a city map.
Source: inhabitat.com

General Description

This proposal aims to build on the existing arts and mural programs at El Puente and engage the entire community in transforming the neighborhood into a round-the-clock learning environment. The goal is to use public art installations and performances to engage the community by communicating the concepts of sustainability, as well as creatively visualizing information about the current environmental, physical, social and economic wellness of the community in ways that are beautifying and thought-provoking. The integration of new technologies and media will be explored in these proposed installations —technologies that can provide up-to-the-minute interactive information on local and global issues.

Rationale

Art and Culture were core pillars of the El Puente Academy when it was founded in 1984 as a way to regain a sense of identity – both at an individual level and as a community. Today these same tools and programs can begin to engage the community – soliciting its ideas, capitalizing on its knowledge – exploring the local and global issues of sustainability and wellness. Having community members monitor, evaluate and disseminate information will increase a sense of ownership as well as generating awareness of important elements of life in the Southside, including community wellness, climate change, health campaigns, etc.

Project Partners

Students and local artists are the main partners in this program. Close collaboration will be key to developing the next generation of artists. Institutions like the New York Public Art Fund (NYPAF) can also support and be a venue for engagement.

Costs

The cost of public art can be significant depending on the medium and complexity of the work. Funds from existing institutions, such as the NYPAF can be tapped for these activities.

Linkages

Transforming the urban space into an interactive art and cultural environment would make use of existing wall space for murals, billboards, open space and school classrooms to disseminate new information. This project relates to other educational proposals, such as the Green Line indicators outlined in this plan (see pg. 98), and the Greening Spaces proposal for creating places of social cohesion (see pg. 82). Public art can communicate, empower, engage, heal, celebrate, educate and inspire – all of which are important to achieving community wellness.

Alternative Energy and Retrofits

Education and Culture

Community Security

Greening Spaces

Community Security

Southside Green Light District Plan
Sustainable Development Studio PLAN-653.02 Fall 2009

"We talk more about food desserts in this city than we talk about food deserts, where 750,000 New Yorkers do not have access to healthy food...that must change."

- Scott Stringer, Manhattan Borough President

In recent years the Southside of Williamsburg has experienced a host of new pressures that threaten the security of the community. From increasing resident displacement caused by higher rents and economic hardship spurred by new development and gentrification, to the increasing cost of food and services, the wellness of local families has been negatively impacted. Additionally, there is growing concern over the levels of household toxins often found in neighborhoods, like the Southside, with aging building stock. In addressing the issue of Community Security, the Green Light District will strive to ensure the right of all residents to have affordable, healthy housing and equitable access to affordable, healthy food.
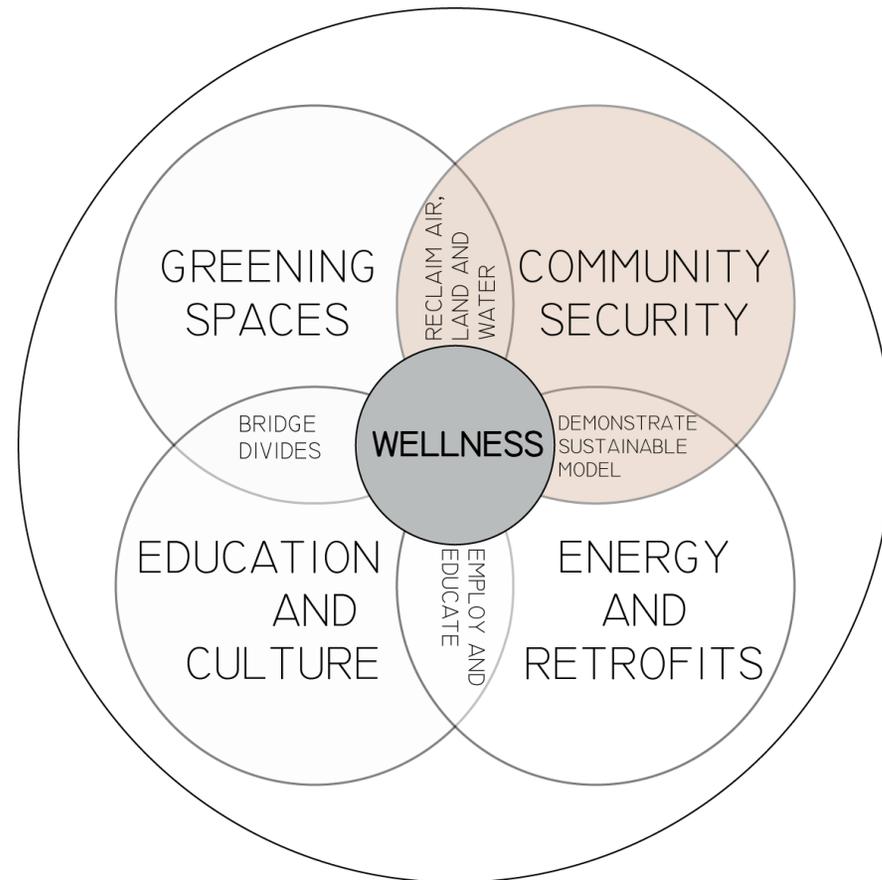
Housing
Though an effective affordable housing program will require both short-term preservation strategies and long-term planning development initiatives that will require the cooperation of government agencies, local housing development corporations and community input, a goal for the Green Light District will be zero resident displacement with multi-generational affordability. Families living in the Southside should no longer worry that their children will be unable to live as adults within the same community. To support the goal of being an anti-displacement district, programs that preserve affordable units, rehabilitate existing buildings and push for the creation of new units of affordable housing in the many stalled developments found here could be critical components that will advance community wellness. A healthy community is one that allows people the freedom to stay in their homes and in the community that they have struggled to preserve and improve.

Food
While the community does have many small businesses that sell food, a survey completed by NYU Public Health students in 2009 identified the need to improve access to affordable and healthy food as a top priority for Southside residents. The Green Light District provides the unique opportunity to consider the sustainability of the entire food system, supplementing the ability of the regional food shed to meet the demands of the neighborhood. An examination of local food production, distribution and associated waste will reveal linkages between the food access issue and how improving access will positively impact health, education, energy efficiency and employment in the Southside.

Secure **affordable, healthy housing,** without fear of displacement, and **affordable, healthy food** for all residents.

GREENING SPACES

RECLAIM AIR, LAND AND WATER

COMMUNITY SECURITY

BRIDGE DIVIDES

WELLNESS

DEMONSTRATE SUSTAINABLE MODEL

EDUCATION AND CULTURE

EMPLOY AND EDUCATE

ENERGY AND RETROFITS

Housing	**14** PG 66	Rehabilitate **existing affordable housing**, with retrofits and weatherization, using city programs and new funding created by the Community Owned Energy Company.
	15 PG 68	Create anti-displacement district through developing a **preservation strategy** with rent and tenure protection and the exploration of a **housing trust to acquire land and new units for affordable housing.**
	16 PG 70	Develop updated **affordable housing survey** to identify existing units, new sites, preservation and rehabilitation opportunities.
	17 PG 72	Develop a household assessment toolkit for measuring chemicals in the home, indoor air quality, lead levels, and other toxins that impact the **health and wellness of the home**.
Food	**18** PG 74	**Map** local food resources.
	19 PG 76	Expand **urban gardening and farming** for food and medicinal herbs to include rooftops, vacant lots, yards, and other available spaces using intensive systems, such as hydroponics, where appropriate.
	20 PG 78	Develop an integrated fresh **food system** that connects food production sites, food distribution opportunities, and composting sites.

● Recommendations Developed in this Report

○ Recommendations for Further Consideration

GREEN LIGHT DISTRICT COMMUNITY SECURITY

Secure affordable, healthy housing, without fear of displacement, and affordable, healthy food for all residents.

14 Rehabilitate existing affordable housing, with **retrofits and weatherization,** using city programs and new funding created by the Community-owned Energy Services Company.

Source: Adapted from Chicago Tribune

General Description

A plan for funding the preservation and rehabilitation of each building in the Southside, prioritizing the preservation of those with affordable units, would benefit the community in a variety of ways. Improvements to building performance, through weatherizing interventions and appliance replacement, saves money for both owners and renters paying energy bills. The Southside will approach these improvements using existing city programs, and the costs of the retrofits can be supplemented with new funds generated by the new Community owned Energy Services Company.

Rationale

A key component to determining the affordability of housing includes the ability of the household to pay for heating and other energy costs. By incentivizing energy retrofits, and introducing sustainable technologies to improve the performance of existing housing stock in the Green Light District, residents of the Southside will see a portion of their housing costs stabilize and even go down. Additionally, building rehabilitation assistance may be offered to landlords and owners as an incentive to preserve affordable units that are unregulated or in danger of deregulation.

Example

The Community Environmental Center (CEC) based in Long Island City has functioned as a comprehensive energy and green building consultant to many local organizations. Their goal is to provide affordable weatherization to under-served communities, as well as conducting Green Jobs training and offering sustainability seminars. www.cecenter.org/

Project Partners

Unique partnerships between City, State and Federal agencies (HPD, HCDC, HUD) and building technology experts will be required for the Green Light District-wide initiative. Audits of individual units and buildings could be conducted by Southside green ambassadors who completed the local green jobs training program.

Costs

Local examples of organizations expanding green financing programs, allowing for retrofits and weatherization are: the Community Preservation Corporation www.communityp.com, NYSERDA www.nyserda.org , DHCR www.dhcr.state.ny.us , and New York State Department of Environmental Conservation www.dec.ny.gov

Linkages

The building-by-building preservation and rehabilitation plan will stem displacement, create jobs, promote new sustainable technologies and improve the individual conditions of apartment units and therefore the health of residents.

Secure affordable, healthy housing, without fear of displacement, and affordable, healthy food for all residents.

15 Create anti-displacement district through developing a **preservation strategy** with rent and tenure protection and the exploration of a **housing trust to acquire land and new units** for affordable housing.

Southside Affordable Housing Trust

Advocacy for tenant rights & the preservation of regulated units

Ability to purchase new land and units

Offer refinancing for stalled developments

Guarantee of permanent affordability attached to unit or land.

Housing pressures

Deflecting housing pressures
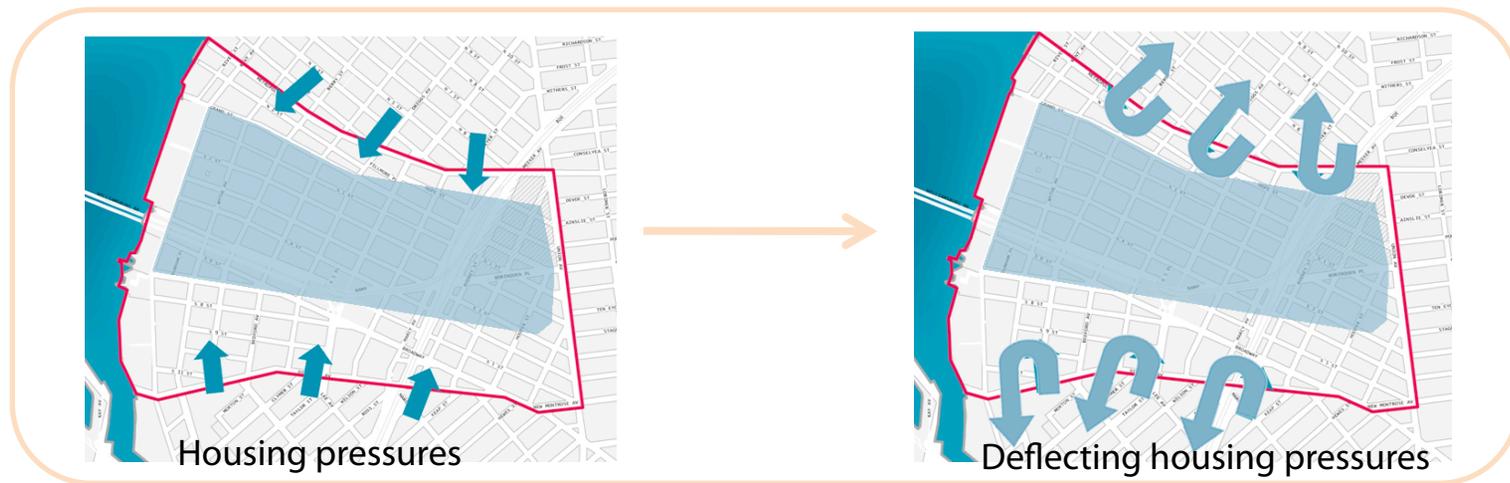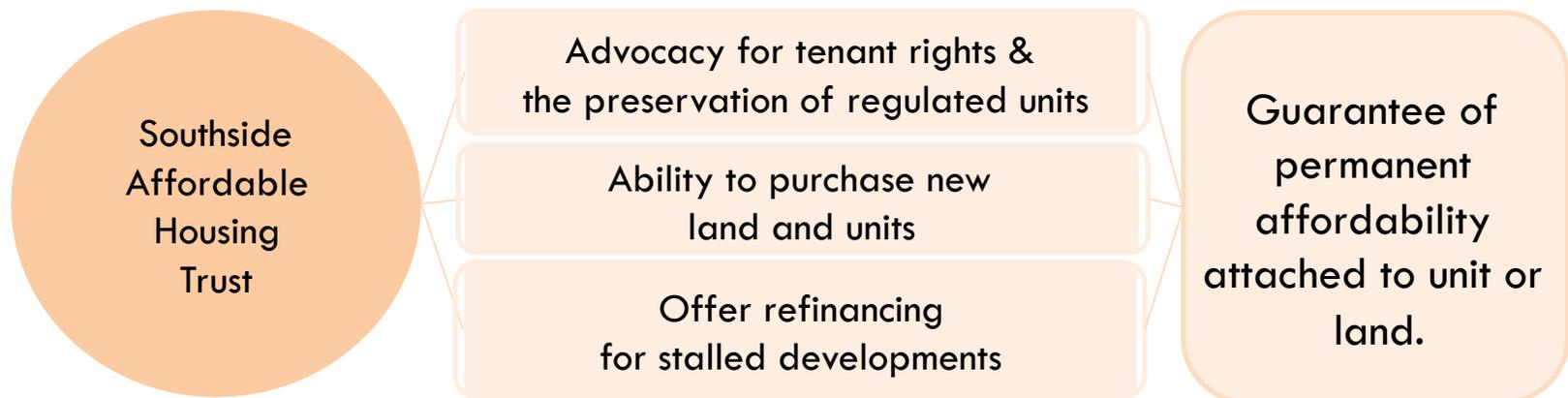
General Description

In order to reach the goal of zero displacement within the Green Light District, a new entity will need to be formed. A Southside Community Housing Trust will explore alternatives to existing affordable housing tools, while advocating for the preservation of existing units and tenants rights. The new entity will be able to purchase land for development as well as purchasing existing units from private developers, with the goal of permanent affordability.

Rationale

As the community is redeveloped, upward pressure will continue to be placed on rents which will impact the level of affordable housing in the community, and outpace the ability of existing affordable housing resources, which struggle to keep up with the market. The Southside Community Housing Trust will develop strategies and garner resources for maintaining long term affordability, with the goal of attaining levels of 100% affordable housing in perpetuity.

Example

There are many models of Community Land Trusts that function to preserve and provide affordable housing by taking units and land out of the market. Burlington Community Land Trust has a history of empowering communities through tenant control of the governing board and dispersed land ownership throughout the city.
(Source: www.burlingtonlandtrust.org)

Project Partners

Local non-profits such as El Puente and Los Sures, and community members with a long-term stake in the community will partner with the city, state and philanthropic institutions to raise the resources needed to acquire and maintain a significant number of permanent affordable housing units in the Southside.

Linkages

Funding generated by the community owned energy services company and income generated from the development of higher income housing would be channelled back into the Southside Community Land Trust and used to preserve existing units and purchase new affordable units or new land for development.

Secure affordable, healthy housing, without fear of displacement, and affordable, healthy food for all residents.

16 Develop updated **affordable housing survey** to identify existing units, new sites and rehabilitation opportunities.

Housing is commonly considered "affordable" when the household pays no more than 30 % of its income for rent or mortgage payments.

General Description

A detailed housing survey, updated every two years, would be a necessary tool for the Green Light District which proposes zero displacement of Southside residents. The survey will identify the number of existing affordable units – both regulated and unregulated – in the community, as well as recommending possible sites for new units. Another measure the survey may provide is a description of the existing housing stock, in order to identify opportunities for rehabilitation. This is a chance to establish a cellar to the roof inspection standard, to asses the quality and health of each building, including the performance of those retrofitted in the future. will Improving the energy performance of existing units helps to keep the cost of heating and other energy expenses affordable.

Rationale

Though current housing surveys, like the Department of Housing Preservation and Development (HPD) Housing and Vacancy Survey , are a useful measure, they are lacking sufficient detail needed to serve the Southside community, largely due to the geographic scale of sample data. If the Green Light District of the Southside is to become an anti-displacement district, an accurate measure must be taken of the area – one that assesses the needs and opportunities of this particular community. The survey will monitor regulated units that may be at risk of going market and asses the impact of recent interventions.

Example

Sufficient sample sizes to generate stable data and trends needs to be selected within the community. The information within the survey will supplement the 2010 Census data, as well as HPD's Housing and Vacancy Survey.

Project Partners

Prior to conducting the survey, El Puente and partners would coordinate with affordable housing experts - from local community development corporations, to government agencies to develop the survey. Building retrofit experts will use the data collected to identify rehabilitation opportunities. Local schools will be utilized to help implement the survey and to educate the next generation of stakeholders.

Costs

The costs could be relatively low, if volunteers are used to conduct portions of the survey. Energy audits, with a cellar to roof inspection will require professional services.

Linkages

Data collected with this localized survey will engage the community in efforts to preserve affordable units and the ability to advocate for the creation of more units with specific sites on paper. By identifying sites for building rehabilitation, the project will create job opportunities in the burgeoning green sector.

Secure affordable, healthy housing, without fear of displacement, and affordable, healthy food for all residents.

17 Develop a **household assessment toolkit** for measuring chemicals in the home, indoor air quality, lead levels, and other toxins that impact the health and wellness of the home.

Lead Paint Risk: New York State Department of Health listed zip code **11211** as *"High-risk"* in 2005

General Description

A simple tool-kit, like a survey combined with easy-to-use instruments, will be developed for assessing the environmental and physical health of homes in the Southside. The toolkit will be accessible to people of all ages, ethnicities, and educational backgrounds. The toolkit will include devices that allow residents to measure the following: indoor air/water quality; integrated pest management; lead, radon and carbon monoxide, levels; exposure to asthma triggers such as smoke and infestation. Cleaning materials and other products that off gas and /or pose a danger will also be assessed. Finally, the survey will track information related to general health, recycling, garbage, energy usage, civic engagement and other Wellness Indicators.

Rationale

If the Southside community is going to make their homes and neighborhood more sustainable and healthier, then they need to know the current conditions. The data collected will be provided to the client's public health partners to be tracked and monitored as part of the larger Wellness Indicators project. The assessment toolkit will empower residents to seek appropriate help or to organize for improvements from their landlords, local businesses, elected officials, etc.   Additionally these data can be used to measure the success of the Green Light District.

Example

Tennessee's Home-A-Syst home has 9 simple questions followed by a list of resources. The Inside Story: A Guide to Indoor Air

Quality on the Environmental Protection Agency website is a very complete list. The National Center for Healthy Housing has a survey, as do many state and local health departments.

Project Partners

Possible partners include: New York City Department of Health and Mental Hygiene, New York City schools of Public Health and Nursing, neighborhood schools , the US Census. St. Nicholas Neighborhood Preservation Organization and Los Sures.

Costs

This initiative will require the development of the assessment tool/survey (hard copy and a web-based); outreach and marketing; data collection and maintenance; on-going programmatic costs ; capital costs for printed materials, media, web-development services, database creation. Potential funding sources include: New York City Department of Health and Mental Hygiene, US Environmental Protection Agency.

Linkages

An informed citizen is an empowered citizen. This tool is informative and will boost awareness and political engagement. The information collected can help El Puente adjust other Wellness projects to address some of the community's most pressing needs.

Secure affordable, healthy housing, without fear of displacement, and affordable, healthy food for all residents.

Map local food resources.

18

Local example of volunteer- generated asset map:

Bushwick Supermarket Map
17 supermarkets in Bushwick, with prices for a standard basket of goods, using Whole Foods and Trader Joe's as controls. Based on Diego Cupolo's article on BushwickBK.com

Updated Oct 09
7,770 views - Public
Created on Oct 12, 2008 - Updated Oct 23
By Jeremy
Rate this map - Write a comment

Associated
Knickerbocker Ave. and Starr St. Milk: $3.49 Bread:

Associated
Broadway and Lexington Ave. Milk: $3.49 Bread:

Associated
DeKalb Ave. and Seneca Ave. Milk: $3.49 Bread:

Brooklyn's Natural
Bogart St. and Seigel St. Milk (half gallon): $4.79

Compare Foods
Myrtle Ave. and Cedar St. Milk: $2.99 Bread: $1.79

C-Town
Flushing Ave. and Beaver St. Milk: $3.39 Bread:

C-Town
Wyckoff Ave. and Hart St. Milk: $3.49 Bread: $1.29

C-Town
Menahan St. and Central Ave. Milk: $3.39 Bread: 99

Key Food
Last Updated by Jeremy on Oct 23

Grand St. and Lorimer Ave.
Milk: $3.39
Bread: $1.59
Eggs: $1.99
Bananas: 69 cents per pound
Black Beans: 50 cents
Total: $8.16 (18 out of 26 – best food quality of stores surveyed)

Get directions - Search nearby
Zoom here - Send
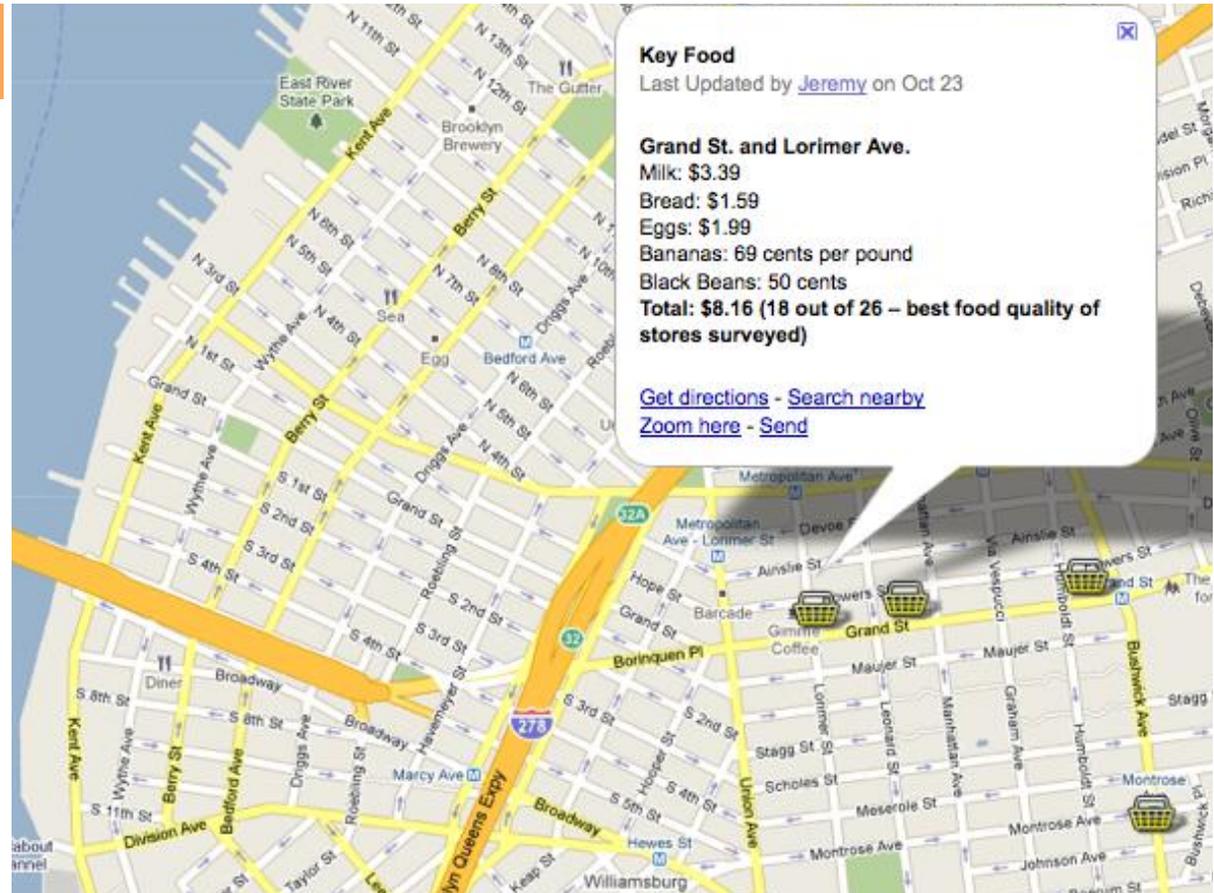
General Description

Using a clear and user-friendly platform, like googlemaps, train volunteers and students to survey area businesses, identifying the strengths and weaknesses of food availability in the Southside neighborhood. The data collected would allow qualitative analysis, wherein things like the comparative cost of food items could be assessed. Other items of interest on the map would include the existing locations of composting sites, community gardens, farmers markets, and Community Supported Agriculture (CSAs).

Rationale

Though the Southside has several vibrant commercial corridors with a variety of family-owned bodegas and other food venders, they fall short of meeting the dietary and budgetary needs of residents. Some of the local food issues identified include a lack of affordability, a lack of fresh produce and healthy choices, and a lack of cultural dietary staples. A full survey of the community food resources may expose other weaknesses in the local situation. Additionally, a mapping project would introduce the issue to community-based volunteers as well as the local business owners, functioning as a first step towards outreach.

Example

The New Orleans Food and Farm Network has experience mapping neighborhood food access, and also provides a manual for data collection methods and volunteer training on their website. (http://www.noffn.org/filemgmt_data/files/ HowToMakeaNeighborhoodFoodMap.pdf)

Project Partners

Interest in Brooklyn's food systems and the how the needs of the Borough are served by the regional foodshed is increasing each year. From the grassroots Brooklyn Food Coalition to the Green My Bodega project, new solutions to improved food access are being explored, and the data collected for the map may be something other groups are interested in. However, the most important partners for the project will be found in the community schools.

Costs

The food availability map would be a project with easy implementation and little or no up front cost. The data collection and mapping will be undertaken by volunteers and/or students in the Southside and the data storage would be left to the free googlemaps platform.

Linkages

The map generated will inform the community on issues related to affordability, health and wellness , culture and sustainable practices and could also lead to conversations about the need for ensuring healthy diets for the people in the community. The simple act of assessing the current conditions can create a larger dialogue that may eventually result in new jobs, new manufacturing around food and even may help support locally-owned businesses.

Secure affordable, healthy housing, without fear of displacement, and affordable, healthy food for all residents.

- **Expand urban gardening and farming** for food and medicinal herbs to include rooftops, vacant lots, yards, and other available spaces using intensive systems (such as hydroponics) where appropriate. **19**

TOMATO   CABBAGE   RADISH

Source: Nuestras Raices

General Description

The expansion of food production, or urban agriculture, is a critical part of improving food security, affordability and access in the Southside. Farming can occur in community gardens, on rooftops, in back yards, vacant lots and even vertical surfaces throughout the neighborhood. Food produced in the Southside will supplement the regional foodshed and can meet the increased demand for traditional cultural food items, including medicinal herbs. The distribution and acquisition and consumption opportunities for locally grown food will include Farmers Markets and CSAs, neighborhood bodegas and neighborhood restaurants.

Rationale

By supplementing the regional foodshed with local food production, Southside residents can control the types of food available for purchase, as well as decreasing the cost. The high cost and low access to fresh food has been identified as a problem by Southside residents. Improved community control will also reinforce healthier eating habits and celebrate cultural identity through traditional food preparation.

Example

El Puente already has a history of growing food in the Southside with the Espiritu Tierra garden. Added Value Farm, located on a former vacant lot in Red Hook, has provided a small-scale model for local integration by growing food and supplying produce to two Farmers Markets and two restaurants in the neighborhood.

Project Partners and Implementation

Small-scale farming in Brooklyn is already happening on rooftops with Rooftop Farms in Greenpoint; in yards with BK Farmyards; and in community gardens similar to El Puente's Espiritu Tierra. Entities like these could be linked together in the Southside to make distribution easier and more efficient. Another partner may be growNYC, whose youth/green markets have an open space greening program, providing best practices workshops, services, tools, donated plant material, and open space planning/mapping information and other services. Concepts like Bodega Supported Agriculture provide a model for how communities can protect locally owned small businesses and support local food production.

Another important partnership can be created in the schools with programming around gardening and even use of rooftops and schoolyards for farming. National programs like Edible Schoolyard provide models for introducing farming and healthy food habits into the elementary school curriculum.

Linkages

Employment and educational opportunities are clearly linked to increasing local food production. Another interesting opportunity worth exploring is the creation of new, locally-owned businesses through supporting small-scale producers of food items that may be canned or otherwise processed for retail sale.

GREEN LIGHT DISTRICT COMMUNITY SECURITY

Secure affordable, healthy housing, without fear of displacement, and affordable, healthy food for all residents.

○ Develop an **integrated fresh food system** that connects food production sites, food distribution opportunities, and
20 composting sites.

DISTRIBUTION

PRODUCTION

Integrated Food System

COMPOSTING
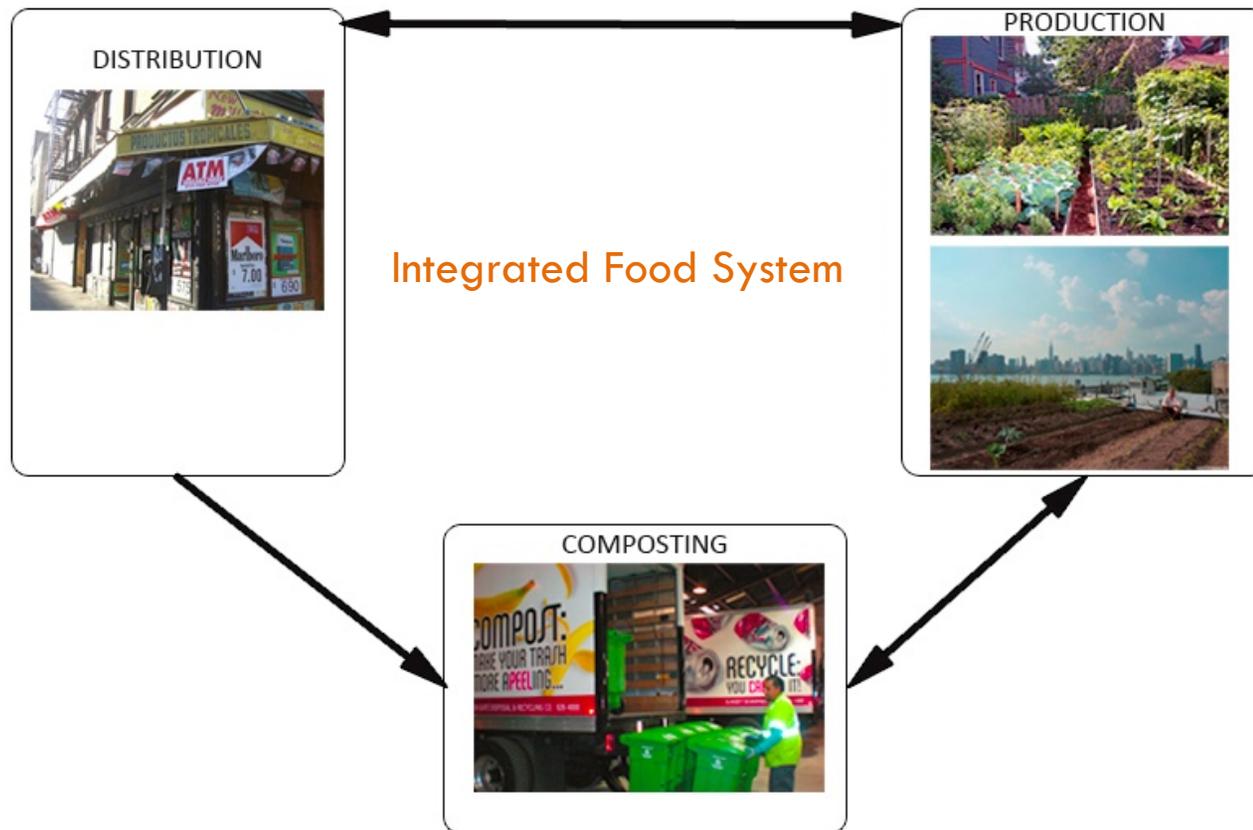
General Description

A neighborhood-level sustainable food system integrates many of the demands and outputs of the community's food needs – from local & remote food production, to the distribution, acquisition, consumption and production of waste. Food production, or urban agriculture, can occur in community gardens, rooftop farming and in back yards throughout the neighborhood. The distribution and acquisition and consumption opportunities for locally grown food will consider Farmers Markets and CSAs, neighborhood bodegas and neighborhood restaurants. In order to address waste associated with local food production, a composting center to collect and re-circulate compost back into food production will be considered. Using the data collected for the food resources map, a plan that links these systems and addresses the neighborhood's food deserts – where access to fresh and affordable food is limited – can be devised for the Southside.

Rationale

An integrated food system has numerous environmental benefits – from supporting urban agriculture which can improve micro-climates through reducing temperatures, improve air quality, etc – to conserving soil, reusing organic waste as compost, enhancing stormwater management, and increasing a neighborhood's biodiversity. Further, by reducing the need to transport food over great distances, less energy is consumed.

Example

East New York Farms! manages two urban farms and collaborates with an extensive network of urban gardeners throughout East New York. Together, its two community-run farmers' markets and Community Supported Agriculture program enhance the supply of affordable, fresh produce in the neighborhood.

Project Partners and Implementation

Many of the partners identified for local food production would overlap, including: Rooftop Farms in Greenpoint; BK Farmyards; and community gardens similar to El Puente's Espiritu Tierra. The composting portion of the system could be recycled back into local food production, or connected by the East River to the site managed by the Lower East Side Ecology Center on the other side of the Williamsburg Bridge, as well as finding a new life the NYC Parks Department.

Support

Sustainable Agriculture and Food Systems Funders, a California-based non-profit provides grants and assistance for community groups seeking to create neighborhood food systems. Other funding sources will also be actively pursued.

Linkages

An integrated neighborhood food system will fully benefit the local economy – from providing some employment, to supporting and improving locally-owned stores. Educational and leadership opportunities exist in nearly every aspect of an integrated food system. The community health and wellness can be dramatically improved by creating a system localized enough to respond to the dietary and cultural demands of the Southside.

A proposal for a greenmarket under the BQE would create new opportunities to distribute fresh, healthy affordable food in addition to the greenmarket already operating in the Southside.

Alternative Energy and Retrofits

Education and Culture

Community Security

Greening Spaces

Greening Spaces

82

Southside Green Light District Plan
Sustainable Development Studio PLAN-653.02 Fall 2009

We had to build a city not for businesses or automobiles, but for children and thus for people. Instead of building highways, we restricted car use. ... We invested in high-quality sidewalks, pedestrian streets, parks, bicycle paths, libraries; we got rid of thousands of cluttering commercial signs and planted trees. ... All our everyday efforts have one objective: Happiness."

- Enrique Peñalosa, former Mayor of Bogata, Columbia

One of the original goals identified by the Steering Committee for El Puente's proposed Green Light District is to "reclaim our toxic air, land and water." The health and wellness benefits from more green space, more parks and more places to exercise and socialize will help the Southside reach the following goals: improving health and wellness and addressing issues of obesity and asthma. The following section identifies specific ways to do this throughout the neighborhood.

Automobile accidents as well as air and noise pollution caused by vehicle traffic on the Brooklyn–Queens Expressway (BQE), the Williamsburg Bridge and the local streets have significant impacts on the physical and mental health of the community. The BQE has had an especially damaging effect on the social connection between the neighborhoods by cutting through the historic street grid and acting as a barrier – it cuts the neighborhood in half – physically and socially. The highway was built in stages from the late 1940s and completed in 1964. Robert Moses was forced to alter his clear cut design when building the massive highway in Brooklyn Heights with the construction of the Promenade, but the same compromise was not included in the section that cuts through the Southside.

The East River waterfront has less than 200 feet of public access, all of which is located at one site, the Grand Ferry Park.   Unfortunately, the East River, like many urban waterways is burdened by runoff that is released when heavy rains tax the sewage system. Each year Combined Sewer Overflow (CSO) events release billions of gallons of sewage into the East River after heavy rains.

Some of the most innovative and interconnected ideas in the sustainability movement are focused on redesigning public spaces and infrastructure with better materials and with higher uses in mind. The Green Light District Plan proposes a number of ideas that work to eliminate these negative impacts resulting from poorly designed and maintained infrastructure . The following section introduces new interventions that are more sustainable and will better serve the people of the community.

Reimagine the whole built environment and integrating streets, infrastructure, open spaces, and the waterfront to create **healthy, safe, and vibrant public spaces.**

GREENING SPACES

COMMUNITY SECURITY

RECLAIM AIR, LAND AND WATER

BRIDGE DIVIDES

WELLNESS

DEMONSTRATE SUSTAINABLE MODEL

EDUCATION AND CULTURE

EMPLOY AND EDUCATE

ENERGY AND RETROFITS
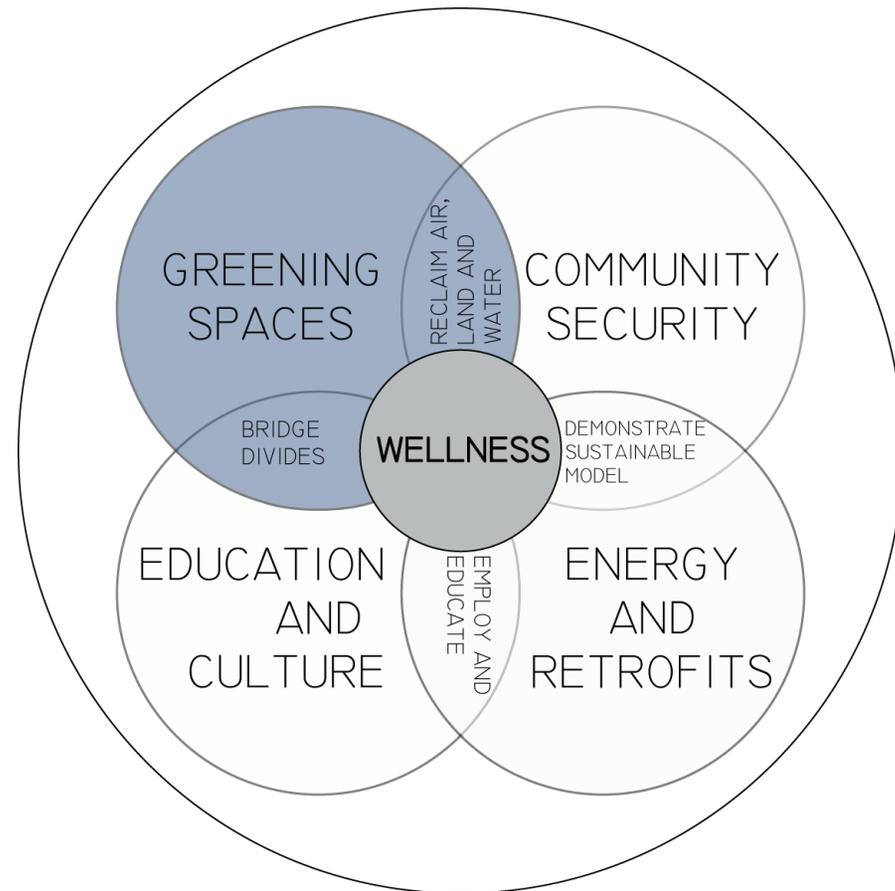
21 PG 86   **Design** *'healthy streets'* that incorporate tree planting, green infrastructure, pedestrian-friendly streets and public spaces; all built to be safer, more sustainable, more natural, and to foster social interaction.

22   Set a goal to achieve **zero waste by 2020** through **recycling, reuse and remanufacturing** programs.

23   Dramatically **reduce transportation noise** both at source and through mitigation techniques.

24   Push for **permanent and affordable ferry service** and improve connectivity with other transportation modes.

25 PG 88   **Reclaim the waterfront** with a design that increases access for recreational use.

26   Explore opportunities to **create places of social cohesion** such as community gardens and parks.

27 PG 90   **Deck over the BQE from Division Ave to S.3rd St** to create parks and public space over the highway that connect communities and form an essential link in a community-wide network of green corridors.

●   Recommendations Developed in this Report

○   Recommendations for Further Consideration

GREEN LIGHT DISTRICT GREENING SPACES

Reimagine the whole built environment and integrating streets, infrastructure, open spaces, and the waterfront to create **healthy, safe, and vibrant public spaces**.

21 Design '**healthy streets**' that incorporate tree planting, green infrastructure, pedestrian-friendly streets and public spaces; all built to be safer, more sustainable, more natural, and to foster social interaction.

Havemeyer St. Existing Conditions

Havemeyer St. After Improvement

General Description

Local streets can be designed and built in a manner to support wellness of all kinds. It requires mitigating – or removing – most motor vehicles, creating spaces for social connections, using high performance materials, increasing the amount of trees and plantings and decreasing the amount of concrete. A network of 'Healthy Streets' would take the "Complete Streets" idea even further. In order to include all the right elements and identify the best locations there would need to be community workshops to gather the community's ideas and visions.

Rationale

The streets of the Southside are public land and need to be re-imagined as a resource for all members of the community, not just those who own automobiles. According to 2000 census, only 30% of New York City Council Member Reyna's district own an automobile. In order to be healthier and more environmentally sustainable alternative modes need to be encouraged and supported – including walking, public transit and bicycling. Creating Healthy Streets by limiting automobile usage and improving how streets (and other public places) are designed, built and used is one way to reclaim land and air. Car free streets are safer streets that can be used for recreation and public gatherings, like theater and concerts. Adding trees and greening the street will clean the air and retain storm water that leads to CSO events.

Examples

Elements of Complete Streets are being used in cities throughout the US. NYC Dept of Transportation has excellent projects for reclamation for pedestrian space and recently created a Street Design Manual.

Project Partners

New York City Department of Transportation, Pratt Center for Community Development, Project for Public Spaces, Open Planning Project

Costs

The expenses associated with this proposal would be the cost of holding the community workshops also called charettes. Depending on how many workshops are held, who is hired to run them and the extent of the study area, the cost can range from $15,000 to $50,000. With grants and assistance from local experts the costs can be minimal. The actual expenses for design and construction will most likely be covered by the capital budget of city agencies like the Department of Transportation and Department of Parks and Recreation, as well as with requests to state and federal agencies.

Linkages

Public space created through the Healthy Streets proposal should be connected to existing public spaces creating a pedestrian-friendly network. Shade trees not only beautify the street and clean the air but also help keep buildings cooler in the summer, helping to lower energy costs. The improvements to the built environment will positively impact the health and wellness of the residents as well as the social cohesion of the community.

GREEN LIGHT DISTRICT GREENING SPACES

Reimagine the whole built environment and integrating streets, infrastructure, open spaces, and the waterfront to create **healthy, safe, and vibrant public spaces**.

(25) **Reclaim the waterfront** with a design that increases access for recreational use.

Legend:
- TREES / GREENERY
- PARK ENTRANCE
- PATH / ESPLANADE
- GREEN LIGHT DISTRICT
- BENCH PICNIC TABLE
- SMALL PLAYGROUND
- LARGE PLAYGROUND
- GREENPOINT/WILLIAMSBURG WATERFRONT MASTER PLAN STUDY AREA BOUNDARY

N
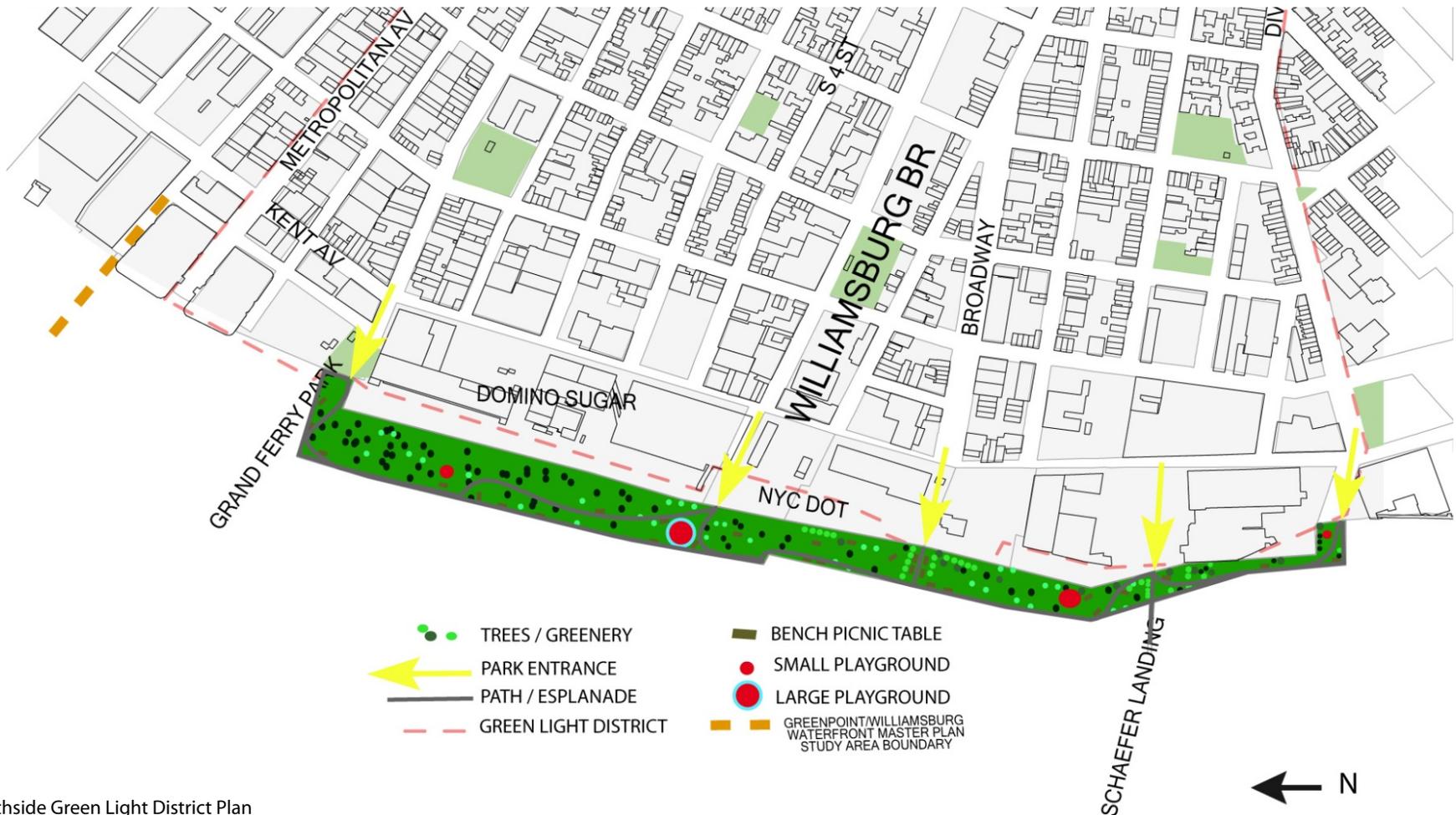
General Description

Greater access to the waterfront and the creation of public space for passive and active recreation for residents of all ages and groups, will greatly benefit the community. The city should build a promenade or park that allows members of the community to spend time along this amenity regardless of what is developed along the waterfront property. The project should be designed and built in keeping with the overall goal of holistic human development.

Rationale

Although there is roughly 5,000 feet of East River waterfront within the project area, less than 200 feet can be accessed by the public, at the Grand Ferry Park. Any newly created green space will improve the physical (air quality, places to exercise, etc.) as well as the environmental health (more trees, more permeable surfaces) of the community.

Recreation along the waterfront could include walking, picnicking, bird watching, fishing or just passively enjoying the water's edge. Direct access to the water for boating, fishing, floating pools or a variety of other uses could happen here on the East River. The waterfront can also provide an educational opportunity for learning about environmental issues like climate change and pollution. Finally, an activated waterfront can help encourage and improve the ferry service that NYC Department of Transporation and NYC Economic Development Corporation proposed as part of PlaNYC.

Examples

Examples include the East River Promenade, Brooklyn Promenade, as well as the new greenway being constructed in the East River Park. Concrete Plant Park in the Bronx is a good example of community informed plan. The Greenpoint-Williamsburg Waterfront Master Plan should be looked at for inspiration and integration.

Project Partners

NYC Department of City Planning, NYC Economic Development Corporation (NYC EDC), NYC Department of Parks and Recreation, Metropolitan Waterfront Alliance, park advocates, and the Brooklyn Greenway Initiative.

Costs

Similar projects include: East River Park promenade at $80 million, the NYC EDC's East River Esplanade projected to cost $150 million, and the Concrete Plant Park in the Bronx, which was funded by the federal government, was $11.4 million.

Linkages

Ferry access located along the waterfront will improve the commuting of Southside residents and reduce the options for strain on the already crowded subways. A park or promenade along the waterfront would help to expand the network of pedestrian-friendly public spaces through the community. Increasing green space and using more sustainable materials will help with storm water management.

Reimagine the whole built environment and integrating streets, infrastructure, open spaces, and the waterfront to create **healthy, safe, and vibrant public spaces.**

27 **Deck over the BQE from Division Ave to S.3rd St** to create parks and public space over the highway that connect communities and form an essential link in a community-wide network of green corridors.

B.Q.E.

Decking over the B.Q.E.

General Description

The BQE cuts the community in half and is a polluted, noisy barrier that disrupts the social fabric of the community. If the highway is decked over the sections of roadway that are below-grade from South 3rd Street to Division Street, parks and open space can be created then access to amenities and commerce would open up. This .25 mile stretch will become roughly 5 acres of new park, transforming unhealthy and unwelcoming areas into beautiful, healthy, places of social cohesion, learning and recreation. Adjacent communities can be organized to create an area-wide coalition focused on addressing and eliminating this and other negative impacts of the BQE in Brooklyn.

Rationale

The ambitious proposal to deck the BQE with newly created park space requires a long-term planning process, but it is neither impossible nor revolutionary. By creating this park space the urban fabric can be healed – along with the connections between the neighborhoods and the people who live in them. There are certainly some engineering challenges, but they are not insurmountable and the end results of more open space and a more pedestrian friendly environment that mitigates the noise and air pollution is well worth it.

Examples

Riverwalk in Trenton, NJ; Sam Smith Park in Seattle, WA; three separate

decked parks in Duluth, MN; Woodall-Rodgers Park in Dallas, TX.

Project Partners

Federal agencies including Housing and Urban Development and US Department of Transportation (DOT), the Trust for Public Land, New York State DOT, New Yorkers for Parks and other park advocates, and adjacent neighborhoods effected by the BQE.

Costs

These projects are expensive and although state and federal funding may be obvious sources, they may not be the only ones. The Riverwalk park in Trenton cost New Jersey DOT $150 million (6.5 acre). Woodall-Rodgers in Dallas is estimated to cost between $60 - $80 million with money coming from local municipal bonds, state and federal transportation funding (including $16.7 million in stimulus from the Recovery and Reinvestment Act) and private funders.

Linkages

Create connections with other public open space to develop a pedestrian-friendly network. Provide space for communicating the Green Light District's goals to large audiences.

Reimagine the whole built environment, integrating streets, infrastructure, open spaces, and the waterfront to create *healthy, safe, and vibrant public spaces*.

This map illustrates the network formed by the separate proposals in the Greening Spaces section. The green bands represent the various proposals including healthy streets, waterfront park, and decking the BQE.

Greening Opportunities

Reimagine the whole built environment and integrating streets, infrastructure, open spaces, and the waterfront to create *healthy, safe, and vibrant public spaces*.

All the proposals in this section strive to attain the maximum benefits of wellness by 1. being designed for pedestrian safety and recreation and 2. being built using materials that help combat the environmental challenges faced by the Southside. For example, porous pavement to absorb run-off ; high reflective surfaces to combat the effects of the urban heat island; more trees and grass to absorb particulate matter.

Green roofs

Paved areas in building shadow

Geothermal

Shade Trees

High Reflective Surfaces

Porous Pavement

Storm Drain

Native Plants

Pendent towards vegetation area

Accomodate All Users - Ages, Modes, Activities
Calm Traffic, Provide Safe Places for Social Interaction

Alternative Energy
and Retrofits

Education and
Culture

Community Security

Greening Spaces

Next Steps

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Cost / Difficulty

HIGH

25 WATERFRONT DESIGN

27 DECKING BQE

MED IMPACT, MED COST

MODEL ENERGY

SUSTAINABLE ROOFTOPS

9 EDUCATION PATH

21 HEALTHY STREETS

15 ANTIDISPLACEMENT DISTRICT

19 FOODSYSTEM

COMMUNITY OWNED UTILITY

HIGH — Impact

7 GREEN ACADEMY

LOW IMPACT, LOW COST

HIGH IMPACT, HIGH COST

ONE STOP SHOP

14 HOUSING REHAB

GREEN AMABASSADORS

20 URBAN AGRICULTURE

17 HOUSEHOLD ASSESSMENT

18 FOODMAP

13 PUBLIC ART

16 HOUSING SURVEY

LOW

● Recommendation Number
(see Previous Sections for Description)

Not all of the suggested programs that are presented in this draft Green Light District Report can be implemented immediately. Implementing the Green Light District will occur in several phases. The diagram above shows selected recommendations both in terms of their impact and transformative potential for increasing wellness in the Southside and in terms of how hard they will be to accomplish. Some of the recommendations, shown in the lower left hand corner of the image above, require less resources and less obstacles must be overcome before enacting them.

For these initiatives, the political will, funding, and capacity is largely present. These actions can be 'phase one' of the Green Light District and will act as catalysts to create momentum for advancing the more arduous recommendations. The upper right hand corner, shows actions which could transform the community, but would require large capital expenditures, political will and human resources. Nonetheless, these activities are not beyond possibility and will form future phases of the Green Light District. Decking the BQE, for example, would have a very positive impact on the community, but is more difficult to accomplish.

GLD Steering Committee
Formed
06.2009

→

GLD Launch and Ideas
Roundtables
08.2009

↓

Research and Mapping
09.2009

→

GLD Concept Plan
(This Document)
12.2009

↓

GLD Steering Committee
to Review and Refine
GLD Concept Plan

←

Participatory Process

↓

Revised GLD Concept Plan and
Implementation Strategy

↓

Plan Implementation
2020
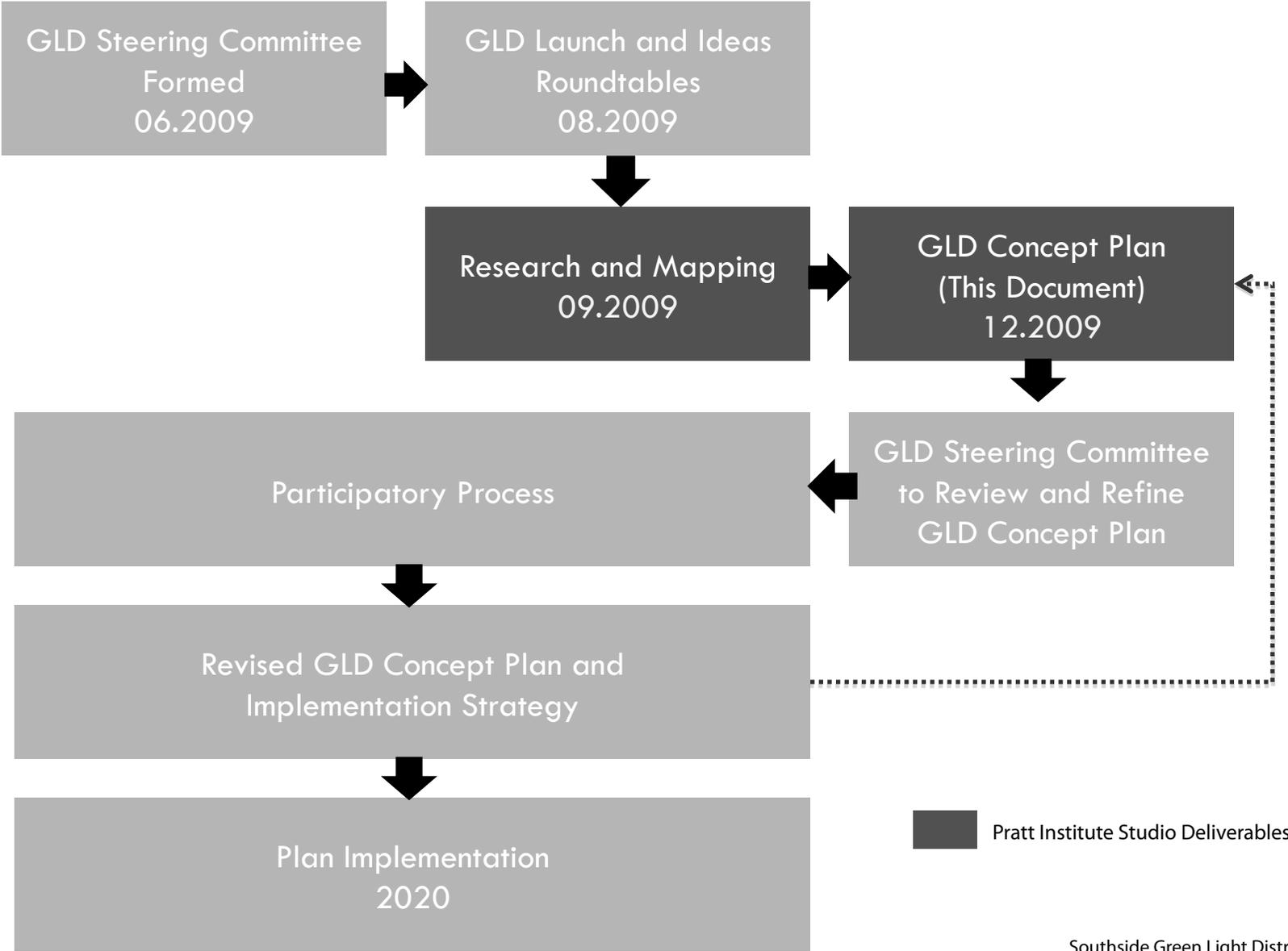
Pratt Institute Studio Deliverables

Alternative Energy
and Retrofits

Education and
Culture

Community Security

Greening Spaces

Green Light Wellness Indicators

"A popular Government, without popular information, or the means of acquiring it, is but a prologue to a farce or a tragedy; or, perhaps both. Knowledge will forever govern ignorance; and a people who mean to be their own governors must arm themselves with the power which knowledge gives."
- James Madison

The phrase 'you can't manage what you don't measure' has become common to the point of cliché in business. This emphasize on metrics in business has ensured managers have the extremely detailed information they need to make informed decisions. A business seeking to reduce employee sick days, for example, has the benefit of data that can help explain the underlying causes for the problem they're seeking to address. Communities, however, are often left without the benefit of systems for tracking and analyzing locally relevant statistics, or these statistics are kept in many separate and difficult to access databases.

Congress enacted the 'Community Right-to-Know Act' in 1986 to establish reporting requirements for environmental hazards and toxins. The Southside Wellness indicators—explained in the follow section— seek to expand on this right to know by providing community members with the tools for assessing progress towards wellness and sustainability, and of comparing the Southside's progress to New York City as a whole. A community has a right to know not only what toxins and hazards are hidden in its midst, but also where it stands relative to other communities on a whole series of measurements of wellness– this information is currently lacking at the neighborhood level. Without this level of information, it is impossible for communities to know whether their situation is improving or deteriorating. The Southside Wellness indicators will establish a baseline, against which progress can be measured, to determine whether the policies and programs that have been applied locally are having their desired effects . While much of the information needed to calculate the indicators suggested in the following pages is not currently available at the local level, this presents an opportunity for Southside residents and students to act as 'citizen scientists', increasing awareness of local conditions by monitoring and documenting them through a collective effort.

What is an Indicator?

Indicators have long been used in the effort to define and measure sustainability and wellness. Attaching a set of metrics to the proposals and programs outlined in this plan allows residents and decision makers to track progress over time. Though indicators have been developed for many purposes and employed at many different scales, Virginia Maclaren of the University of Toronto distinguishes urban sustainability indicators from other types of indicators by the fact that they are "integrating, forward looking, distributional, and developed with input from multiple stakeholders in the community"[1]. Beyond providing clarity and direction, and making often inaccessible information transparent to community residents, indicator projects often produce a far more important outcome: the process of developing the indicators can bring together community members, build local capacity and energize participants to act to improve the conditions their indicators will measure.

1. Neighborhood Sustainability Indicators Guidebook, Urban Ecology Coalition, 1999.

Environmental Indicators

Institutional Indicators

Economic Indicators

Social Indicators
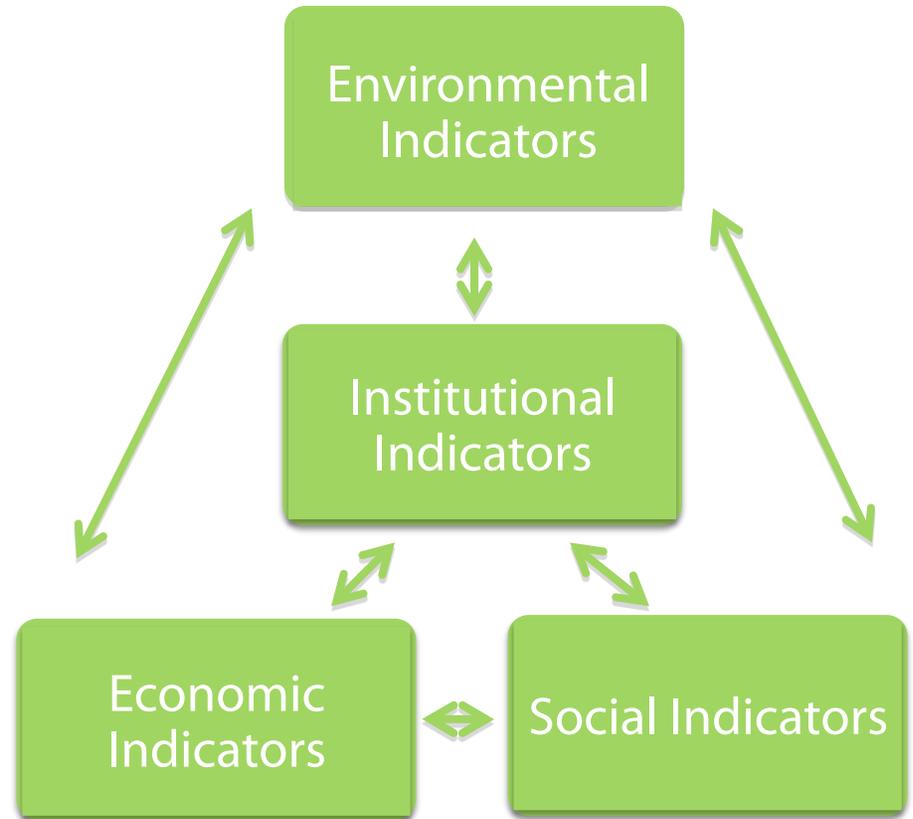
Indicators not only measure different aspects of a condition, they also help show interrelations.

GREEN LINE APPROACH

Creating Effective Sustainability Indicators
A successful series of indicators is dependent on the following conditions: the information needed to calculate it is within the means of the community to obtain, and can be obtained frequently (at least annually). The indicators should be simple enough to be easily understood, but not so simple that complex problems are being reduced to a single number; the indicators should span social, environment and economic spheres and consider the inter-linkages between them; the indicators should be tied to actions and targets (not overly abstract); should be community-driven and relevant to the local context.

Other Indicator Approaches
We reviewed many of the most frequently cited sustainability indicator projects, and assessed each on criteria ranging from simplicity to their holistic nature. No single indicator system satisfies all of the criteria: for example, a more holistic indicator is likely to be more complex and therefore less easily calculated. In addition, there are inherent tensions between many sustainability indicators and indicators of human development. Because costs associated with the depletion of non-renewable resources that will be borne by future generations make little difference to current welfare, sustainability indicators can increase at the expense of human development indicators, or vice-versa. To balance this conflict, some organizations have created systems of indicators that measure sustainability as an increase in human development with a corresponding decrease in ecological footprint.

Two Streams of Measurement

Comparing the Southside — Comparison Indicators

+

Tracking GLD Progress — Southside Indicators

→ **GREEN LINE WELLNESS INDICATORS**
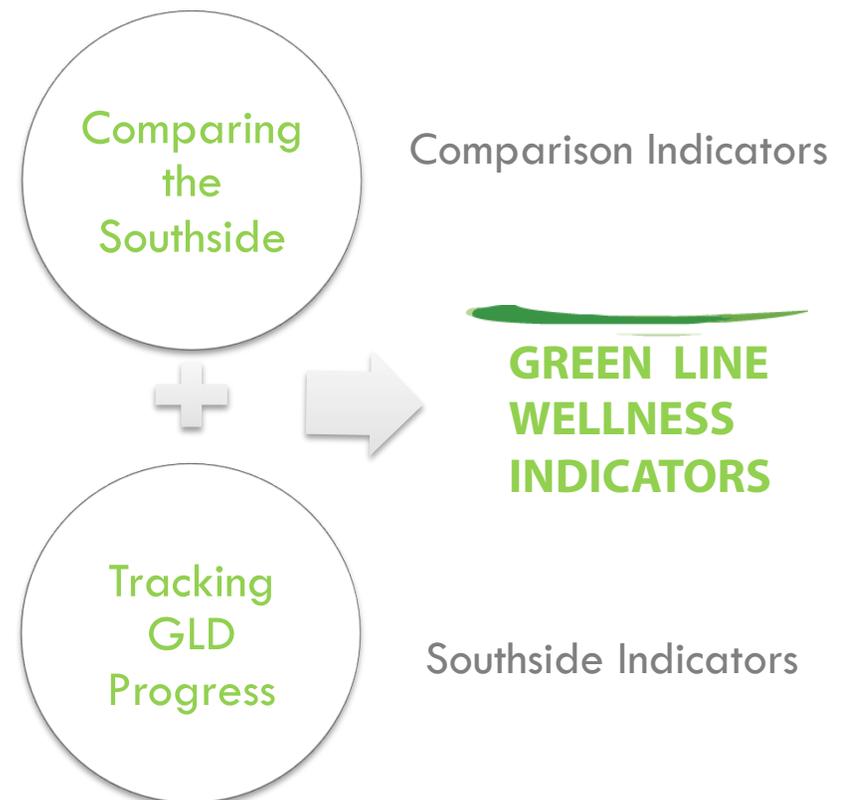
GREEN LINE APPROACH

INDICATOR	SIMPLE	HOLISTIC	LOCAL	ECOLOGICAL CONTEXT	SPECIFIC
Ecological Footprint				✔	
UN Human Development Index	✔				
Oregon Benchmarks		✔	✔		✔
Genuine Progress Indicator		✔			
LEED ND			✔		✔
Quality of Life Index	✔				
Gross National Happiness		✔			

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GREEN LINE APPROACH

Wellness as the Basis for Sustainable Development

Amongst the various indicators approaches reviewed (see previous page for summary), we found the Gross National Happiness concept, pioneered in Bhutan and since refined by a number of psychologists and economists, to be most closely aligned with El Puente's Twelve Fundamental Principles. The Gross National Happiness concept clearly captures the complexity of sustainable development, and includes both human and social indicators, including indicators of:

1.0 Economic Wellness
2.0 Environmental Wellness
3.0 Physical Wellness
4.0 Mental Wellness
5.0 Workplace Wellness
6.0 Social Wellness
7.0 Political Wellness   Adapted from Med Yones, 2006

These indicators, however, have been primarily applied in assessing the development of nations and are weighted heavily towards human development, with less focus on long-term sustainability. The Green Line Wellness Indicator approach borrows the Gross Happiness framework and adapts it to both the local level and ensures that the indicator incorporates environmental sustainability. It won't be possible to be above the Green Line if human development is occurring at the expense of the environment and vice versa.

Indicator Types

The Green Line incorporates two types of indicators: 'Southside indicators', which assess progress on goals specific to the Green Light District Plan, and 'comparison indicators' which create a standard by which neighborhoods can be compared relative to each other. The draft list of indicators in the following pages lists both Southside and comparison indicators. Southside indicators are demarked with 'SS' and comparison indicators with 'C'.

Data Challenges

A whole host of data on neighborhoods already is already collected by various levels of government, City agencies, non-profits and universities. However, these various sources of information are not always easy to reconcile– each source may collect its information at a different scale and at different time intervals. In New York City, much of the pre-existing data that is compiled frequently enough to be used for indicators is collected at the Community District level. The Greenpoint-Williamsburg Community District, which contains the Southside, is not internally homogenous, so using statistics at this geography can be misleading when referring to the Southside specifically. As the Greenline project progresses, much of this information can be improved and augmented by surveying local households; until then, Greenpoint-Williamsburg has been used as a temporary proxy for this report.

Targets

The Green Light District's vision is ambitious– making the Southside of Williamsburg the most sustainable neighborhood in the country. New York City has already been identified as the most sustainable city in the country. To make the Southside the most sustainable community, the plan suggests beating New York City performance by 30% on a host of sustainability indicators.

1.0 ECONOMIC WELLNESS INDICATORS

Objective
Measure the ability of residents to live well, the equitable distribution of resources, and the impact of community reinvestment.

Type		Indicators	Source	Smallest Geography	Possible Target
C, SS	1.1	Percent of Residents Earning a Living Wage	Census Data, ACS, Augmented with Annual Southside Survey	Community District	100% by 2020
C, SS	1.2	Percent of Workers w/ < 30 min Commute	Census Data, ACS, Augmented with Annual Southside Survey	Community District, Southside	30% Greater than NYC Average
C, SS	1.3	Income Disparity	Census Data, ACS, Augmented with Annual Southside Survey	Community District, Southside	tbd
SS	1.4	Total Investment in Green Business	tbd	Southside	tbd
SS	1.5	Unemployment Rate	Bureau of Labor Statistics	Community District	Same proportion as in population as a whole
SS	1.6	Percent of Consumer Goods Purchased from Local Businesses	Southside Survey	Southside	tbd
SS	1.7	Percent of Food Consumed locally that is produced within 50 miles	Collected by Green Academy	Southside	tbd

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2.0 ENVIRONMENTAL WELLNESS INDICATORS

Objective
Ensure that human development occurs without stressing the natural environment or burdening future generations.

Type		Indicators	Source	Geographies	Possible Target
C, SS	2.1	GHG emissions per Capita	Calculated by Green Academy (and compared to NYC Office of Long Term Planning Figures)	Southside	30% Lower than NYC Average by 2020
C	2.2	Electricity Consumption per Household	Southside Survey / Audit	Southside	30% Lower than NYC Average by 2020
C	2.3	Renewable Energy Consumption Ratio	ConEdison and Estimation of Independent Providers		50% by 2020
SS	2.4	Renewable Energy Generated Locally	ConEdison and Estimation of Independent Providers	Southside	20% by 2020
SS	2.5	Energy Funding Received	Census	Southside	tbd
C	2.6	Median Vehicle Miles Traveled	NYC DOT	Community Districts	30% Lower than NYC Average by 2020
SS	2.7	Number of Buildings or Units Retrofitted	Database kept by Green Light District Team	Southside	100% by 2020
C	2.8	Water Use per Capita	Furman Center, NYC	Community Districts	30% Lower than NYC Average by 2020
SS	2.9	Drinking Water Analyses above Max. Contaminant Level	Southside Household Audit	Southside	0% by 2020
C	2.10	Residential Waste per Capita	Furman Center, NYC	Southside	Zero Waste by 2020
C	2.11	Recycling Diversion Rate	Furman Center, NYC	Community Districts	30% Above NYC Average by 2020

Sample Indicator 2.10
Net Waste in lbs per Capita
(NYCHANIS, 2008)

Green Line Target

NYC　Brooklyn　Greenpoint Williamsburg　Southside

?
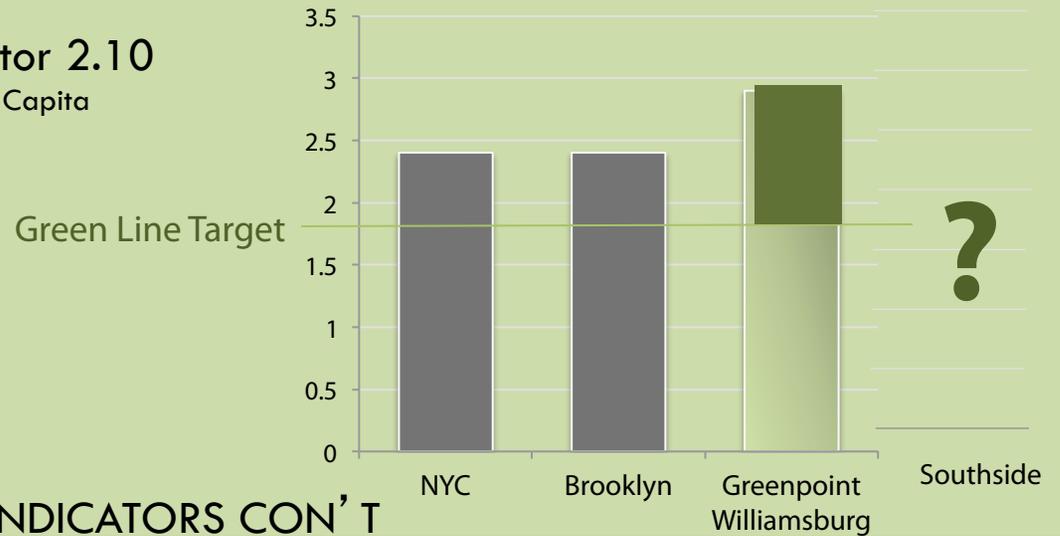
2.0 ENVIRONMENTAL WELLNESS INDICATORS CON'T

C	2.12	Total Acreage Brownfields per Capita	Southside Brownfield Inventory, DCP Data	Southside	tbd
C	2.13	Street trees per Capita	NYC DOP	Southside	tbd
C	2.14	Percent of Impervious Surface in Community	NYC DOITT Building Foot Print Data, NYC DOITT Roadbeds, Aerial Photo Interpretation, OLTPS	Southside	tbd
C	2.15	Air Complaints	Furman Center, NYC	Community Districts	tbd
C	2.16	Elevated Blood Lead Levels (exposure per 1000 individuals)	Furman Center, NYC	Community Districts	tbd
C	2.17	Noise Complaints	Furman Center, NYC	Community Districts	tbd
SS	2.18	Percent of Local Industries Using Green Practices	Database kept by Green Light District Team	Southside	tbd
SS	2.19	Number of Clean DG installations	Database kept by Green Light District Team	Southside	tbd
SS	2.20	Dollar Amount of Weatherization Incentives Employed Locally	Database kept by Green Light District Team	Southside	tbd

3.0 PHYSICAL WELLNESS INDICATORS

Objective
Health is often the 'canary in the coal mine'. These indicators measure the basic necessities in terms of health (access to healthy food and play spaces, etc.) and the impacts of unhealthy lifestyles.

Type		Indicators	Source	Geographies	Possible Target
C	3.2	Obesity Rate	NYC Community Health Atlas	UHF Neighborhoods	30% Below NYC Average by 2020
C	3.3	Open Space per Capita	Department of City Planning, PLUTO	Any Scale	tbd
C	3.4	Percent of Infants Born with Adequate Birth Weight	Furman Center	UHF Neighborhoods	tbd
C	3.5	Asthma Hospitalizations	NYC Community Health Atlas	UHF Neighborhoods	tbd
C	3.6	Diabetes	NYC Community Health Atlas	UHF Neighborhoods	30% Below NYC Average by 2020
C	3.7	Physical Activity Levels	NYC Community Health Atlas	UHF Neighborhoods	30% Above NYC Average by 2020
C	3.8	Elevated Cholesterol Levels	NYC Community Health Atlas	UHF Neighborhoods	30% Below NYC Average by 2020
C	3.9	Poor Self-Reported Health	NYC Community Health Atlas	UHF Neighborhoods	30% Below NYC Average by 2020
SS	3.11	Community 'Walkability'	Walkscore	Southside	100% by 2020

Sample Indicator 1.1

Asthma Hospitalizations Per 1,000
Residents (NYC Dept of Health, 2007)

Green Line Target
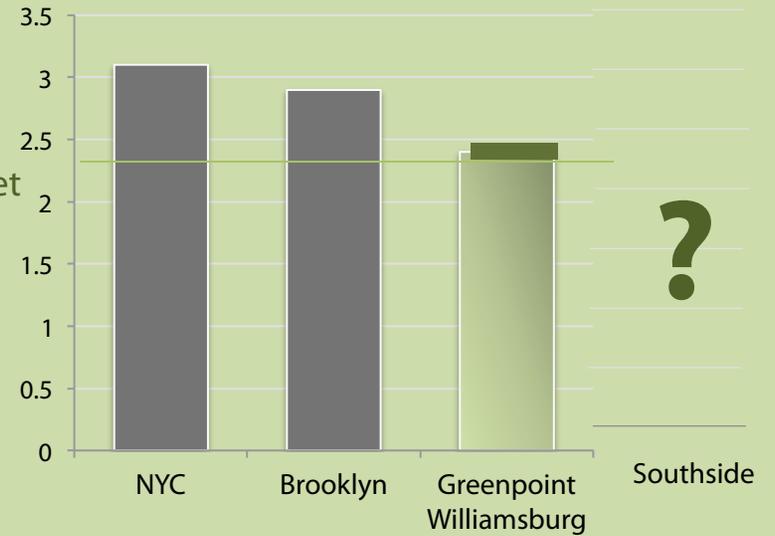
3.0 PHYSICAL WELLNESS INDICATORS CON'T

SS	3.12	Healthy Food Purveyors per Capita	Collected by Green Academy Students	Southside	tbd
SS	3.13	Presence of Household Toxins	Southside Survey	Southside	0% of homes by 2020
SS	3.14	Percent of Individuals who Bicycle Weekly	Southside Survey	Southside	30% Greater than NYC Average by 2020
SS	3.15	Acreage of New Green Space Created	Department of City Planning, PLUTO	Southside	tbd
SS	3.16	Local Park Space Utilization Rates	Collected by Green Academy Students	Southside	tbd

Sample Indicator 4.6
Drug Abuse per 100,000 Residents
(NYC Dept of Health, 2008)

Green Line Target
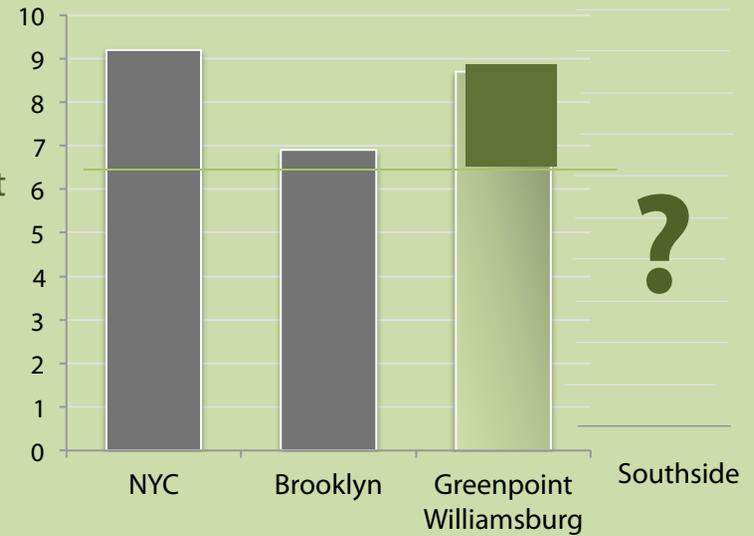
4.0 MENTAL WELLNESS INDICATORS

Objective
Create measures that will track progress towards happiness and mental well-being.

Type	Indicators	Source	Geographies	Possible Target
4.1	Binge Drinking Rate	NYC Community Health Atlas	UHF Neighborhoods	30% Below NYC Average by 2020
4.2	History of Depression	NYC Community Health Atlas	UHF Neighborhoods	30% Below NYC Average by 2020
4.3	Senior Social Isolation	NYC Community Health Atlas	UHF Neighborhoods	30% Above NYC Average by 2020
4.4	Frequent Mental Distress	NYC Community Health Atlas	UHF Neighborhoods	30% Below NYC Average by 2020
4.5	Number of Residents Continuing Education and Other Lifelong Learning Opportunities	Southside Survey	Southside	tbd
4.6	Drug Abuse per 100,000 Residents	NYC Dept of Health	Community District	30% Below NYC Average by 2020

5.0 WORKPLACE WELLNESS INDICATORS

Objective
Measure employment satisfaction, employment prospects, and economic generators.

Type		Indicators	Source	Geographies	Possible Target
SS	5.1	Number of Paid Sick Days	Southside Survey	Southside	100% of all workers have paid sick days
SS	5.2	Number of Years at Job	Southside Survey	Southside	tbd
SS	5.3	Number of Residents Who Own Their Own Business	Southside Survey	Southside	tbd
C, SS	5.4	Percent of Workers w/ < 30 min Commute	Census Data, ACS, Augmented with Annual Southside Survey	Community District, Southside	30% Greater than NYC Average
SS	5.5	Ability to Advance within Workplace	Southside Survey	Southside	tbd
C	5.6	Workplace Stress Reported	Bureau of Labor Statistics	Community District	tbd
C	5.7	Number of Workplace Complaints	Bureau of Labor Statistics	Community District	tbd
SS	5.8	Number of Southside-Based Businesses	Southside Survey	Southside	tbd

6.0 SOCIAL WELLNESS INDICATORS

Objective
Measure causes and effects of social ills associated with safety, living cost and social integration.

Type		Indicators	Source	Geographies	Possible Target
C	6.1	Food-stamp Recipients per Capita	Furman Center	Community District	tbd
SS	6.2	Community Gardens Plots	Collected by Green Academy	Southside	tbd
C	6.3	Percentage of Rental Units that are Affordable (under 30% of median income)	tdb	tbd	tbd
SS	6.4	Number of Blocks Using Inclusionary Zoning Allowances		Southside	tbd
C	6.5	Educational Attainment	Census, ACS	Community District	tbd
C	6.6	Rent Burden	Furman Center	Community District	30% Less than NYC Average by 2020
C	6.7	Violent Crime Rate	Furman Center	Community District	30% Less than NYC Average by 2020
C	6.8	Incarceration Rate	Furman Center	Community District	30% Less than NYC Average by 2020
C, SS	6.9	Median Number of Years in Neighborhood	Census Data, CS, Augment with Annual Southside Survey	Southside	tbd
SS	6.11	New Units of Affordable Housing Created		Southside	tbd

7.0 POLITICAL WELLNESS INDICATORS

Objective
Measure the engagement and political awareness of the community through public involvement in formal and informal political activity.

Type		Indicators	Source	Geographies	Possible Target
SS	7.1	Attendance at Community Board Meetings	Southside Survey	Southside	tbd
C	7.2	Voter Turnout	tbd	Polling Precinct	tbd
SS	7.3	Involvement In Local Activism	Southside Survey	Southside	tbd
C	7.4	Number of Letters to the Editor, Feature Articles on Local Issues	tbd	Southside	tbd
SS	7.5	Number of Local Politically Active Organizations	Southside Survey	Southside	tbd
SS	7.6	Number of Registered Voters	Southside Survey	Southside	tbd
C	7.7	Number of CBO Organizations and Community Animators	tbd	Southside	tbd

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		Alternative Energy and Retrofits	Arts and Education	Community Security	Greening Spaces
ECONOMIC WELLNESS	1.1 Percent of Residents Earning a Living Wage	X	X	X	
	1.2 Percent of Workers w/ < 30 min Commute	X			X
	1.3 Income Disparity	X	X	X	
	1.4 Total Investment in Green Business	X	X	X	X
	1.5 Unemployment Rate	X	X	X	
	1.6 Percent of Consumer Goods Purchased from Local Businesses			X	
	1.7 Percent of Food Consumed locally that is produced within 50 miles			X	
ENVIRONMENTAL WELLNESS	2.1 GHG emissions per Capita	X			X
	2.2 Electricity Consumption Per Household	X			
	2.3 Renewable Energy Consumption Ratio	X			
	2.4 Renewable Energy Generated Locally	X			
	2.5 Energy Funding Received	X			
	2.6 Median VMT				X
	2.7 Number of Buildings or Units Retrofitted	X	X	X	
	2.8 Water use Per Capita	X			X
	2.9 Drinking Water Analyses above Max. Contaminant Level	X			X
	2.1 Residential Waste per Capita			X	X
	2.11 Recycling Diversion Rate		X		X
	2.12 Total Acreage Brownfields Per Capita	X		X	X
	2.13 Street trees per Capita				X
	2.14 Percent of Neighborhood Surface That's Impervious				X
	2.15 Air Complaints	X			X
	2.16 Elevated Blood Lead Levels (exposure per 1000 indviduals)			X	X
	2.17 Noise Complaints				X
	2.18 Percent of Local Industries Using Green Practices	X	X		
	2.19 Number of Clean DG installations	X			
	2.2 Dollar Amount of Weatherization Incentives Employed Locally	X			
POLITICAL WELLNESS	7.1 Attendance at Community Board Meetings		X		
	7.2 Voter Turnout		X		
	7.3 Involvement In Local Activism		X		
	7.4 Letters to the editor, feature articles on local issues		X		
	7.5 Number of Local Politically Active Organizations		X		
	7.6 Number of Registered Voters		X		

As this is implemented, the suggested Green Line Wellness indicators will improve. The relationship between the Green Line Wellness indicators and Green Light District Plan is illustrated in the table above– an 'X' indicates that the proposals under the theme will significantly improve the wellness metric on the left.

		Alternative Energy and Retrofits	Arts and Education	Community Security	Greening Spaces
PHYSICAL WELLNESS	3.2 Obesity Rate		X	X	X
	3.3 Open Space per Capita				X
	3.4 Percent of Infants Born with Adequate Birth weight		X		
	3.5 Asthma Hospitalizations	X		X	X
	3.6 Diabetes		X	X	X
	3.7 Physical Activity Levels				X
	3.8 Elevated Cholesterol Levels		X	X	
	3.9 Poor Self Reported Health		X	X	X
	3.11 Community 'walkability'				X
	3.12 Healthy Food Purveyors Per Capita			X	
	3.13 Presence of Household Toxins	X		X	
	3.14 Percent of Individuals who Bicycle at least once a week				X
	3.15 Acreage of New Green Space Created				X
	3.16 Local Park Space Utilization Rates				X
MENTAL WELLNESS	4.1 Binge Drinking Rate		X		
	4.2 History of Depression		X	X	
	4.3 Senior Social Isolation				
	4.4 Frequent Mental Distress				
	4.5 Number of Residents involved in continuing education and lifelong learning opportunities		X		
WORKPLACE WELLNESS	5.1 Number of Paid Sick Days	X			
	5.2 Number of Years at Job	X			
	5.3 Number of Residents Who Own Their Own Business		X		
	5.4 Percent of Workers w/ < 30 min Commute				X
	5.5 Ability to Advance within Workplace	X	X		
	5.6 Workplace Stress Reported		X		
	5.7 Number of Workplace Complaints		X		
	5.8 Number of Southside Based Businesses	X	X		
SOCIAL WELLNESS	6.1 Food-stamp Recipients per Capita			X	
	6.2 Community Gardens Plots			X	X
	6.3 Percentage of Rental Units that are Affordable (under 30% of median income)	X		X	
	6.4 Number of blocks where inclusionary zoning has been applied			X	
	6.5 Educational Attainment		X		
	6.6 Rent Burden			X	
	6.7 Violent Crime Rate		X		
	6.8 Incarceration Rate		X		
	6.9 Median Number of Years in neighborhood			X	
	6.11 New Units of Affordable Housing Created			X	

GREEN LINE COLLECTION METHODOLOGY

Data collected for the Green Line should be updated at least annually. Some Green Line data will be garnered from existing sources, but many indicators will be collected by local residents, using the expertise that will be harnessed and developed among local schools and organizations.

The Southside Survey

Much of the data needed for the indicators described does not currently exist. The Southside Survey will be a large scale effort to engage the community, residence by residence, in green issues. The survey, to be conducted annually, will assess household energy use by incorporating a pre-audit (see Energy recommendation section of this report), home health, and will also contain questions on general well-being. This data will be used to assess the progress of the Green Light District Plan– though it is important to note that other communities will not have the same fine grained information and cannot be used for comparisons. El Puente youth and members can administer these surveys, effectively conducting outreach and promotion while collecting data. In the process, the whole community will be familiar with the Green Light District plan and will be invested in its success.

El Puente Green Academy

Some of the data requires not only collection, but also calculation. The El Puente Green Academy– a proposed Charter School focused on environmental justice with a science based curriculum, could become a tremendous resource, integrating the Green Line indicators into the curriculum and training young people for future careers in green jobs (energy auditors, carbon tracking, etc.)

Existing Data Sources

Existing data sources can and should be used for 'comparison indicators'. In order to compare the Southside to other areas, the data must be consistent and must be collected regularly. Possible sources include: The Bureau of Labour Statistics, NYC Department of Health, NYC Agency Performance Reporting (CPR), NYCHANIS, DEP, EPA Toxic Release Inventory, the Brooklyn Indicators project, American Community Survey, and other sources.

1.0 Economic Wellness

Indicator 1 Standardized Score	8
Indicator 2 Standardized Score	3
Average	**5.5**

2.0 Environmental Wellness

Indicator 1 Standardized Score	10
Indicator 2 Standardized Score	8
Average	**9**

3.0 Physical Wellness

Indicator 1 Standardized Score	7.5
Indicator 2 Standardized Score	2
Average	**4.75**

4.0 Mental Wellness

Indicator 1 Standardized Score	5
Indicator 2 Standardized Score	4
Average	**4.5**

5.0 Workplace Wellness

Indicator 1 Standardized Score	2
Indicator 2 Standardized Score	6.5
Average	**4.25**

6.0 Social Wellness

Indicator 1 Standardized Score	9.5
Indicator 2 Standardized Score	7.5
Average	**8.5**

7.0 Political Wellness

Indicator 1 Standardized Score	10
Indicator 2 Standardized Score	2
Average	**6**

Distilling the Indicators

Indicators will express different values in different units. To create the Green Line, these values will be converted into standard values for each indicator (between 1 and 10). Next, each category can be assigned a weight, in order to ensure that environmental indicators are given due consideration.

Greenline Neighborhood Scorecard (Hypothetical)

	VALUE	WEIGHT	NEW VALUE
1.0 Economic Wellness	5.50	1.00	5.50
2.0 Environmental Wellness	9.00	2.50	22.50
3.0 Physical Wellness	4.75	0.75	3.56
4.0 Mental Wellness	4.50	0.75	3.38
5.0 Workplace Wellness	4.25	0.75	3.19
6.0 Social Wellness	8.50	0.75	6.38
7.0 Political Wellness	6.00	0.50	3.00

AVERAGE	**6.79**
SCORE	678.57
GREENLINE	500

The Green Line Wellness indicators are intended to increase information transparency and empower the community with an accurate barometer of progress. To do these things well, the Green Line must be extended out into the community itself: how the information is disseminated and how the community is engaged are as important as the information itself. The Green Light District envisions the Southside as a total learning environment that integrates the arts and sciences in connecting individuals to their immediate environment. The Green Line data can serve to advance this 'community as a classroom' concept (see Arts and Education programs in this document). El Puente's strengths in community-based arts practice raises unique possibilities for collecting and disseminating the Green Line Data.

The means of making the Green Line information accessible are limited only by creativity. Community murals, public art installations and theater productions are some of the artistic mediums that could be employed. Artist environmentalists have often found dramatic ways to make this information more immediate: in the 'Light Blue Line' project, for example, the predicted future sea level is being painted on the sides of buildings across the United States. Static installations could be integrated and augmented with digital displays or other technologies: text messaging and other means of communications have often been used to increase awareness of user surroundings.

For example, signs posted throughout the community could direct residents to send a text-message to receive data on traffic volumes or air pollution.   Pratt Institute Arts and Design students are available to consult with the community and help develop these means of visually displaying the Green Line information.

Another method for making data more easily understood and more visible is through the use of 'dashboards'. A dashboard combines key indicators and displays them in a graphic way, and is frequently used by businesses to manage their decision making. Similarly, a 'sustainability dashboard' could be made available online or could take the form of a physical installation in the community to display key environmental data and allow residents to make better decisions about the future of their own community and about their own actions. Social scientists have found that providing real-time information creates a feedback loop that results in individuals changing their own behaviors. This has been termed the 'Prius-effect': wherein drivers shown information on their own fuel consumption leads to a change the way they drive (Lucid Design Group). This effect could be exploited to help reduce home energy; for example, installing an electricity meter ('smart meter') in an individual's home has been shown to reduce energy consumption. The same effect could have wide-reaching impacts at the community level, if the relevant information were available and distributed in engaging, highly visible ways.

85%
Residents Earning a Living Wage

Economic Wellness 1.1

167
Asthma Hospitalizations

Physical Wellness 3.5

95%
Educational Attainment

Social Wellness 6.5

3.2
Street Trees per Capita

Environmental Wellness 2.13

1 out of 50
Binge Drinking Rate

Mental Wellness 4.1

150 MW
Renewable Energy Generated Locally

Environmental Wellness 2.4

22,150
Number of Registered Voters

Political Wellness 7.6

256
Home-based Businesses

Workplace Wellness 5.8

17%
Bike Once per Week

Physical Wellness 3.14

Sustainability Dashboard Concept

(note: figures are for illustration purposes only, the data for these indicators is not yet calculated)

GREEN LIGHT DISTRICT Contributors and Credits

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Appendix

Southside Green Light District Plan
Sustainable Development Studio PLAN-653.02 Fall 2009

GREEN LIGHT DISTRICT Residential GHG Emissions Calculation

GROSS BUILDING AREA		Unit	Calculation	Source
Residential	7,015,630	Square Feet		DCP Pluto, 2009
Commercial	15,867,009	Square Feet		DCP Pluto, 2009

ELECTRCITY USE COEFFICIENTS		Unit	Calculation	Source
Residential	6.20	KWh per Sq/Ft		Green A Block LES
Commercial	24.90	KWh per Sq/Ft		Green A Block LES

ELECTRICITY USE		Unit	Calculation	Source
Residential	43,496,906	Annual KWh	Sq/Ft X Coefficient	n/a
Commercial	395,088,524	Annual KWh	Sq/Ft X Coefficient	n/a

HEAT AND HOT WATER COEFFICIENTS		Unit	Calculation	Source
NYC Heating Degree Days 2008	4,426	hdd		NYSERDA
BTU Intensity	34	BTUs / Sq/Ft		

HEAT & HOT WATER		Unit	Calculation	Source
Residential	1,055,740,064,920	BTUs	HDD X BTU Intensity X Sq/Ft	ConEdison
Commercial	2,387,730,982,356	BTUs	HDD X BTU Intensity X Sq/Ft	ConEdison

CARBON COEFFICIENTS		Unit	Calculation	Source
Electricity (2008)	0.0775	lbs of C02e / KWh		2009 Emissions Inventory NYC
Fuel Oil (2008)	0.000185714	lbs of C02e / BTU		2009 Emissions Inventory NYC

CO2e EMISSIONS			Unit	Calculation	Source
Residential					
	Heat and Hotwater	196,066,012	Lbs of C02e	BTUs X Fuel Oil Coefficient	
	Electricity	3,371,010	Lbs of C02e	KWh X Electricity Coefficient	
	TOTAL	199,437,022	Lbs of C02e		
		90,463	Metric Tonnes of C02e		
Commercial					
	Heat and Hotwater	443,435,754	Lbs of C02e	BTUs X Fuel Oil Coefficient	
	Electricity	30,619,361	Lbs of C02e	KWh X Electricity Coefficient	
	TOTAL	474,055,114	Lbs of C02e		
		215,028	Metric Tonnes of C02e		

LOCAL RENEWABLE ENERGY RESOURCES GREEN LIGHT DISTRICT

Source: www.ecofriend.org

Source: www.gnace.com

New York City's growing demand for energy will result in substantial energy shortfalls over the next few decades. Powerplants are becoming increasingly difficult to locate, creating an imperative to find clean alternatives that can be installed locally. PlaNYC 2030 also states that NYC will meet 30% of its greenhouse gas reductions through new clean energy installations. A few technologies than can be incorporated (alone or in conjunction) to meet these needs are highlighted below:

Wind Energy
According to a statement from Mayor Bloomberg, wind energy has the potential to supply up to 10% of New York City's energy needs within 10 years. This includes energy generated through offshore wind and small wind turbines located on rooftops. Despite progress being made in making small wind commercially viable, challenges remain in terms of aesthetics, the vibrations the turbines can cause and the inconsistency of wind as a power source. (Source: news.cnet.com)

Ground Source Heating and Cooling
Ground source heat and cooling uses a heat exchanger to take advantage of the temperature difference between the soil and the air.   In New York this technology has excellent performance coefficients, and has been shown to perform more efficiently than fossil fuel based systems. Several types of systems are economical and practicable in Brooklyn and if properly designed, systems will provide the lowest cost and lowest environmental impact.

Solar Potential
Because electricity rates in NYC are amongst the highest in the United States, and because of generous financial incentives available, solar technologies are more financially viable in NYC than elsewhere in the nation. The Southside has an ample supply of unshaded rooftops where solar can be developed. Solar thermal, a simple technology used to heat water with the sun, has both quick paybacks and substantial potential to reduce energy use (hot water accounts for 19% of NYC's energy consumption. Solar thermal technology has also been promoted as having the greatest potential for manufacturing in NYC and its wide-scale adoption could spur job growth and incubate a new industrial cluster locally. (Source: New York City Economic Development Corporation)

Co-Generation
Also called 'Combined Heat and Power' Co-Generation involves the use of small-scale turbines located onsite to generate electricity. The waste heat generated in the process is then captured and used to heat the building. Because this technology is highly efficient and cost effective, the city has already mandated that all new large-scale developments must investigate the feasibility of incorporating a CHP system. A recent study found that although only 118 mw of CHP capacity is currently installed, the technology has the potential to provide up to 3,200 mw of power locally. PlaNYC sets a target for 800 mw by 2030, eight times the current level. (Source:www.iea.org)

Source: Long Island Solar Energy Systems

Retrofit Potential (Resources in Study Area)	
Total Square Footage of all Bldgs in the Study Area	4,982,304
Square Footage of Residential Area	7,015,630
Number of Buildings With Residential Units	397
Number of Residential Unit	6726

Building Sizes	
Average Units per Building	16.9
Buildings with Greater than 5 Residential Units	203
Units in Bldgs with Greater than 5 Residential Units	6164
Percentage Residential Units in Bldgs with More Than 5 Units	92%

Building Age	
Buildings that are More than Five Units and more than 25 Years Old	133
Units in Buildings that are More than Five Units and More than 25 Years Old	4496
% of Pop. in Res. Units that are More Than Five Units and More Than 25 Years Old	67%

Source: DCP Pluto, 2009

NYC Residential Energy Use Distribution					
Building Type	Heat	Hot Water	Lighting	Appliances / Electronics	Cooling
1-4 family residence	51.7%	17.7%	11.6%	15%	4%
Multi-family residence	33.6%	33.6%	13.6%	17.8%	5.4%