Northeast Neighborhood Sustainability Plan – Health Impact Assessment

Final Report and Recommendations
September 2014

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1. FORWARD

Community Solutions' neighborhood-based initiative in Northeast, Hartford aims to improve the health of residents in one of Connecticut's poorest communities where health disparities are greatest. Our multi-pronged approach focuses on the social determinants of health, on coordinating access to the elements of a healthy life, and on steadily improving the neighborhood's physical and social environment.

Northeast Neighborhood Sustainability Plan – Health Impact Assessment
Final Report

This report summarizes a collaboration between Community Solutions and Michael Singer Studio as part of a Health Impact Assessment funded the by the Health Impact Project. The Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts, is a national initiative designed to promote the use of Health Impact Assessments as a decision-making tool for community development policymakers, planners and community members.

As the community's poverty and poor health are inextricably linked, Community Solutions (CS) works to improve local public health in tandem with boosting economic security. We are accomplishing this by connecting residents, nonprofits, and government organizations around a common, measurable vision of change within a defined timeframe; by training multi-stakeholder partners in effective collaboration using process improvement approaches; and by using data to guide interventions on a person-by-person, household-by-household basis while improving the shared civic infrastructure of the neighborhood.

This Health Impact Assessment (HIA) and the related Northeast Neighborhood Sustainability Plan are two new tools for CS, residents, and stakeholders to use in making the "healthiest" decisions in improving the physical environment of the neighborhood. As we learn more about how the conditions in the communities where Americans live, work and play impact health,[1] this report uses the policy tool of the HIA and the NNSP infrastructure plan to uncover opportunities for building a healthy community that engages residents and stakeholders in collective decision-making and ownership of the plan.

1 Health Policy Snapshot. "How does where we live work and play affect our health?" Robert Wood Johnson Foundation, Issue Brief: September 2011.

2 The Health Impact Project. http://www.healthimpactproject.org/hia

2. INTRODUCTION

Community Solutions, in partnership with Michael Singer Studio and with the support of Georgia Health Policy Center, led the development of Hartford's Northeast Neighborhood Sustainability Plan informed by a Health Impact Assessment (NNSP-HIA). The project was supported by a grant from the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts. Health Impact Assessments (HIAs) identify the health consequences and benefits of new public policies, plans, projects, and programs using a data-driven approach that can be adapted to specific contexts. This enables the development of practice strategies that will enhance the health benefits of proposed policies and interventions and will minimize adverse effects. This NNSP-HIA is one of three national demonstration projects sponsored by the Health Impact Project highlighting the important role that HIAs can play in community development.

As a part of our larger neighborhood improvement effort (described more in following sections), this plan outlines the best opportunities for increasing the infrastructural and environmental sustainability of the Northeast neighborhood, while positively impacting the health, safety and economic opportunities of residents. Northeast is a neighborhood which suffers from high crime, unemployment, and poverty rates and poor health outcomes for a large portion of the population. Community Solutions, supported by a broad alliance of partners and residents, is working to improve, simultaneously, the physical condition of the Northeast neighborhood as well as the health and economic security of its residents.

Conditions in the places where we live, work and play have a tremendous impact on individual health.[2] Quality of life in communities is dependent on the ability to walk, run or bike safely; to have clean air, healthy food and access to affordable housing; and to be safe from violent crime, vehicle accidents, fires and other causes of injury. These health and socioeconomic issues all play a role in the social determinants of health at the local level. The Centers for Disease Control and Prevention outlines 12 core dimensions of the social environment that impact health: economy, employment, education, housing, transport and public health, as well as political, environmental, medical, governmental, psychosocial and behavioral factors, with each dimension having several components. Within both policy and practice, there is an increasing recognition at all levels of government, at the community level, and within the formal healthcare sector of the need to understand, and have a role in addressing, these social determinants of health.[3]

CS facilitated the development of this community-driven sustainability plan which includes detailed strategies for specific sustainable physical infrastructure improvements in the neighborhood utilizing better health outcomes for residents as a key driver. Sustainability of infrastructure and environment, in this case, refers to using or building physical infrastructure

2 The Health Impact Project. http://www.healthimpactproject.org/hia

3 Hillemeier, M, Lynch J, Harper S, Capser M. (2004). Data Set Director of Social Determinants of Health at the Local Level. Atlanta: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

in a way that contributes to the overall quality and sustainability of natural resources, such as energy, tree canopies, water and air.

The purpose of the NNSP-HIA is to provide background and precedents, aspirational plans and concepts, and neighborhood-specific strategies to guide the near term implementation of health-supporting developments in the Northeast neighborhood. The relationship between the different opportunities presented by this NNSP-HIA highlights the various components of each opportunity and ways to maximize the efficacy of each action. Additionally, because the HIA process—described below—emphasizes community engagement, the decision to combine the NNSP with the HIA has enhanced the community input and ownership of the process and decisions on priorities will guide the eventual implementation of the improvements. This framework generated consensus and ideas for jointly advancing health and economic indicators. It will also be of service in advancing economic development, environmental and civic engagement objectives, and population health goals.

The goals of the integrated NNSP-HIA project are:

1. To develop a neighborhood sustainability plan that includes key opportunities for physical and environmental change to improve the Northeast neighborhood and the health and well-being of its residents;
2. To create a core document (the HIA) as a source recommending key positive and sustainable physical infrastructure changes to ensure that health remains a critical consideration in the development of neighborhood plans;
3. To bring together a diverse group of stakeholders through the NNSP-HIA processes to create a shared agenda for community development that will have a significant positive impact on the health and well-being of residents, increase the likelihood of success and ensure accountability;
4. To use community-identified priorities - safety, employment and youth engagement - as a framework for recommendations; and
5. To highlight existing assets and opportunities within the Northeast neighborhood as key areas for investment.

The NNSP-HIA was developed through direct interactions with community residents and stakeholders as an action-focused vision for the future of the Northeast neighborhood. It provides background information on existing neighborhood conditions and offers precedents for recommendations using the HIA and stakeholder input to prioritize steps and strategies and to guide implementation.

3. Health Impact Assessment

The International Association of Impact Assessment (IAIA) defines the Health Impact Assessment (HIA) as "a combination of procedures, methods and tools that systematically judges the potential, and sometimes unintended, effects of a policy, plan, program or project on the health of a population and the distribution of those effects within the population."[4]

All HIAs follow a basic process that can be used in a broad range of applications. There are six basic steps that are consistent:[5]

1. **Screening:** This step involves determining whether an HIA is feasible, timely, and would add value to the decision-making process.
2. **Scoping:** This step creates a plan and timeline for conducting an HIA that defines priority issues, research questions and methods, and participant roles.
3. **Assessment:** This step involves a two-stage process of:
    1. Creating a profile of the existing conditions for a geographic area and/or population in order to understand baseline conditions and to be able to predict change; and
    2. Evaluating the potential health impacts, including the magnitude and direction of impacts using quantitative and qualitative research methods and data.
4. **Recommendations:** Recommendations are developed to improve the project, plan, or policy and/or to mitigate any negative health impacts.
5. **Reporting:** This step involves creating written or visual presentation of the HIA results and communicating the results within the decision-making process.
6. **Monitoring:** This step tracks the impacts of the HIA on the decision-making process and the decision, the implementation of the decision, and the impacts of the decision on health determinants.

4 Quigley R, L de Broeder, P Furu, A. Bond, B. Cave, R. Bos. (2006). Health Impact Assessment International Best Practice Principles. Special Publication Series No. 5. Fargo, South Dakota, USA: International Association for Impact Assessment.
5 Health Impact Assessment Process. The Health Impact Project - http://www.healthimpactproject.org/hia/process

4. SCREENING: NNSP-HIA PROJECT BACKGROUND

4A. Lead Organizations:

Community Solutions - Community Solutions (CS) helps communities solve the complex problems that affect their most vulnerable, hardest hit members. We draw on successful problem-solving tools and strategies from diverse sectors like public health, manufacturing and design. By adapting these strategies to civic and human services issues, we support the natural wisdom and capacity of community members to develop solutions to their own most urgent challenges.

We began our efforts by pioneering innovative solutions to homelessness. Today, we are at work on a range of social problems that contribute to homelessness - from concentrated poverty to urban public health. We test, scale, and share new approaches to these issues for the benefit of organizations and communities seeking smart, humane, and lasting solutions. Our collaborative process results in more effective local services, more connected and resilient communities, reduced taxpayer costs, and better lives for struggling people.

Whether at the neighborhood- or system-level, we:

1. Organize communities around a goal: a big, measurable, time-bound collective challenge that unites them;
2. Support collaborative problem solving by making it easier for groups from multiple organizations to work together and, because we work nationally, cross-pollinate the best ideas from around the country;
3. 'Kickstart' the process: we give groups some simple techniques that help them get better at solving design and implementation problems quickly; and
4. Facilitate continuous improvement by providing data on performance and coaching to improve results.

Community Solutions began its comprehensive neighborhood improvement effort in the Northeast neighborhood in 2012, selecting the neighborhood because of its extreme neglect and health and income disparities. We organized a neighborhood collective of residents, nonprofits and community organizations and governmental agencies to work jointly to improve the health and prosperity of the neighborhood. In reviewing the administrative data on Northeast and in discussion with community members and many other stake-holders, health and the social determinants of health quickly emerged as the focus for collaboration in building new approaches to neighborhood-level change.

Recognizing that the formal healthcare system has very limited capacity to address the social determinants of health, and that no individual organization or program can change the course of a low-income and under-resourced neighborhood like Northeast, CS functions as a "backbone" structure for the neighborhood to connect over 40 healthcare, nonprofit and government organizations. As a collective we focus on three complementary efforts to advance the safety, health and prosperity of Northeast (which includes the Sustainability Plan described in this report):

I. Northeast Neighborhood Sustainability Plan
To transform the deteriorated physical environment of Northeast into one that is stable, productive and sustainable. Based on exploratory work done by the Conway School of Landscape Design, noted for their work in sustainable landscape design, we engaged Michael Singer Studios (MSS), master planner, to create a green neighborhood plan for Northeast. MSS' work has been informed by and is reflective of an iterative process of community conversations, research, and the application of the HIA framework.

II. Swift Factory Redevelopment
To create jobs and help to revive the community's economic sustainability. CS is redeveloping the 2.6-acre historic Swift Factory complex at 10-60 Love Lane at the center of the Northeast neighborhood. Consisting of a historic 65,000 square foot former gold leaf manufacturing factory, two historic residences and vacant land, the Swift Factory will become the site of new, middle skill jobs available to Northeast residents. The redevelopment of the factory overlaps with the NNSP-HIA as the goals of the projects are the same: creating sustainable improvements in the neighborhood that will impact the health, safety and economic activity of Northeast and the residents who live there. The Swift Factory campus is an asset to the neighborhood and its adaptive reuse will be integrated within the NNSP-HIA as redevelopment occurs over the next two years.

III. Community Care Management
To offer high-touch, low-cost care coordination services to community members struggling with multiple health, behavioral health, trauma, and/or substance abuse needs, improving the health and social sustainability of the community. To this effect, Community Solutions introduced a community-based care coordination (CBCC) program in the Northeast neighborhood during the summer of 2012. This work has been accomplished through a collaboration with Saint Francis and Hartford Hospitals, health clinics, and the City of Hartford Department of Health and Human Services. CS will expand the initiative in partnership with these same organizations, the State of Connecticut and, very likely, the Medicaid Managed Care entity created by the State. The next step/scale up will involve training a cadre of Northeast residents to serve as Community Health Workers. By assisting individuals in better managing their health conditions in their homes, we will demonstrate how more effective services can be provided at a lower cost, while also creating good jobs for local residents.

Michael Singer Studio – Michael Singer Studio (MSS) is a multifaceted art, design, and planning studio focused on understanding and expressing each project's environmental systems and interactions as well as exploring its social and educational potential. MSS projects are noted for specificity to the site, aesthetic beauty, functionality, and artful details in design and fabrication. The studio offers in-house architectural and landscape architectural design, planning, interpretive design, fabrication, and construction, and is experienced in working with teams that include a variety of other professionals from engineers to botanists and policy makers.

MSS has led a number of planning projects, some stretching over decades, to help transform

places, regenerate environments and revitalize communities. For these complex projects the Studio teams with professionals and academics from a wide range of disciplines to develop innovative approaches to planning and re-imagining the potential of place. MSS is a leader in reimagining the role and interface of the critical infrastructure that sustains our everyday lives. The Studio's work has opened new possibilities for water, energy and waste infrastructure to be present, transparent, and environmentally and socially transformational within the communities they serve. More information about MSS can be found at: www.michaelsinger.com.

As a partner in the NNSP-HIA process, MSS took the lead in researching existing regulatory, governance and service issues that reinforce the neighborhood's distress, as well as emerging opportunities to reshape the community's physical environment. This included City and State initiatives now underway that can quickly advance the NNSP-HIA recommendations, such as a review of the City's zoning code and regional transit system; a study on the future of Hartford's parks, the Mayor's plan to support more livable and sustainable neighborhoods; a new storm water separation initiative by the Regional Water Board; and a focus on new waste management and energy investments by the State.

Georgia Health Policy Center – The Georgia Health Policy Center (GHPC) is housed within the Andrew Young School of Policy Studies at Georgia State University. It has more than 100 diverse public and private clients on local, state, and national levels and has worked in more than 800 communities across the country. With more than a decade of combined experience in Health Impact Assessment, GHPC provided technical assistance to Community Solutions throughout the development of the NNSP-HIA. More information about GHPC can be found at http://ghpc.gsu.edu.

4B. Northeast Neighborhood Sustainability Plan

In 2012, CS engaged MSS to help develop a community-driven sustainability plan for the Northeast neighborhood. This plan built on the work of a student project conducted by the Conway School of Landscape Design that examined potential changes to the physical environment that would promote neighborhood vibrancy and safety, "A Vision For a Vibrant Northeast, Hartford."[6] The Northeast Neighborhood Sustainability Plan (NNSP) includes detailed strategies for increasing the infrastructural and environmental sustainability of the Northeast neighborhood while also boosting population health and addressing other social determinants of health.

The purpose of the NNSP is to provide background and precedents, outline plans and concepts, as well as strategies for near-term implementation of priority initiatives. To that aim, the NNSP emphasizes the relationships between the various components of neighborhood health and how their combined value is greater than their sum. The NNSP used the HIA as a decision guide for determining priorities and selecting interventions. The plan is a written and illustrated report including strategies, diagrams, and plans for increasing the sustainability of Northeast and is meant as an invitation to stakeholders to implement part, or all, of the plan.

6 Cullinan, S. and Jackson, R. (2012). "A Vision For a Vibrant Northeast Hartford." The Conway School of Landscape Design.

The NNSP was developed through an iterative process with community residents, community organizations and institutions as an action-focused infrastructure vision for the future of Northeast. It is our intention that this be a living and breathing document that will continue to change and evolve in response to needs and opportunities. CS, acting as a backbone organization to help drive collective impact,[7] will facilitate the implementation of the plan recommendations to ensure forward movement toward a healthier and more vibrant community.

4C. Integrating HIA and NNSP Processes

Through the screening process, CS and MSS, with support from the Health Impact Project, determined that the HIA would be an invaluable tool in the development of the NNSP and integrated the two processes. Developed by a team of residents, organizational and government stakeholders that were supported by CS and MSS and advised by the Georgia Health Policy Center and the Health Impact Project, this HIA was interwoven into the development of the NNSP. At every step we aligned the goals of the NNSP and the process of the HIA to include emerging findings and reflect resident and stakeholder input.

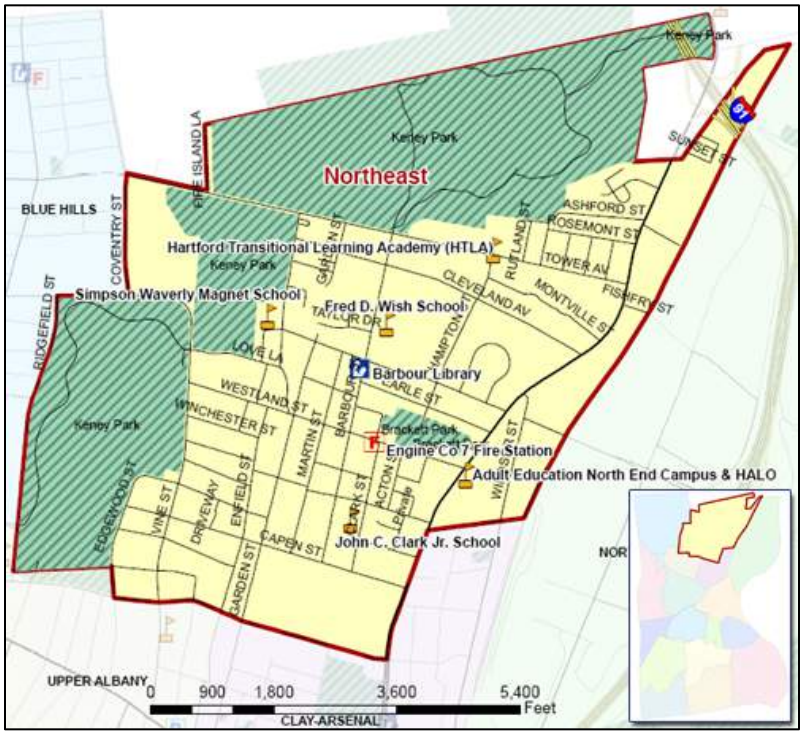
The NNSP-HIA addresses the operations of the entire neighborhood, including public institutions and services, existing land uses and regulation, utility infrastructure, housing conditions, open space, transportation and links to essential services and opportunities in the rest of the City and region. The HIA framework positioned the NNSP to use evidence-based interventions to support improved health and quality of life in Northeast. The HIA was critical in providing evidence of health effects and supporting data to narrow and ultimately choose neighborhood infrastructure interventions, such as showing links between reduced unemployment and health.

7 Kania, J. and Kramer M. “Collective Impact.” Stanford Social Innovation Review: Winter 2011.

5. BASELINE NEIGHBORHOOD CONDITIONS & COMMUNITY HEALTH PROFILE

5A. Baseline Neighborhood Conditions

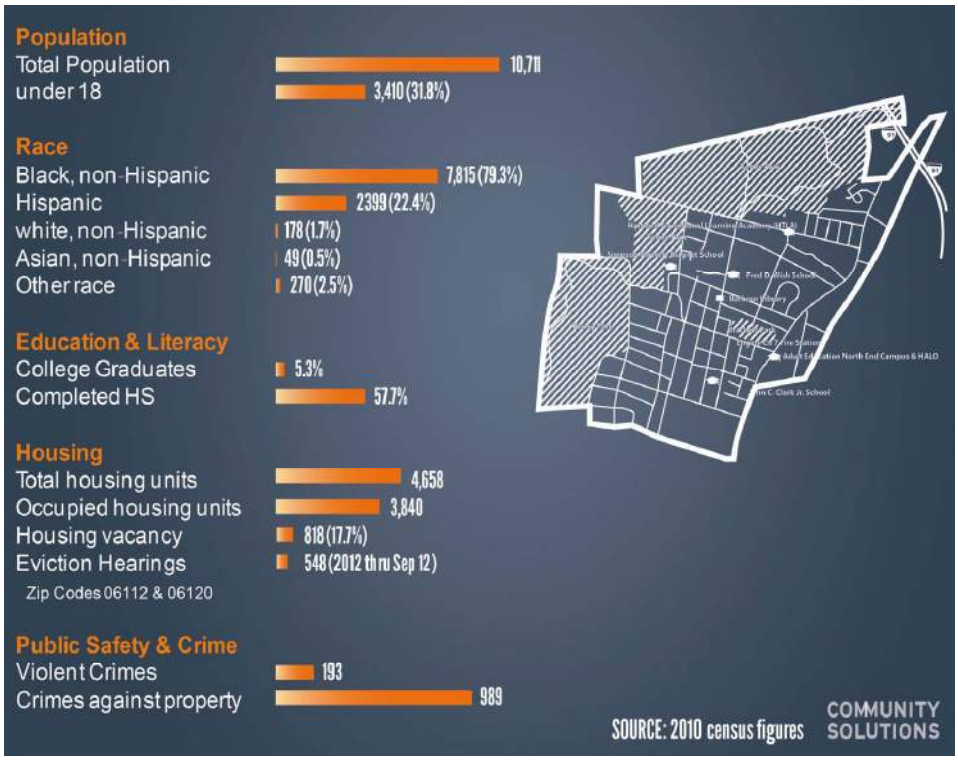
The Northeast neighborhood of Hartford is defined as the area in northeast Hartford bound by the city limits to the north, Amtrak train tracks to the east, F.D. Oats Avenue to the south, and Keney Park to the west. The neighborhood has 10,711 residents, within a city of 124,775,[8] of which the majority is African-American (79%), followed by Latino (19%). This project targets health disparities between the largely Black and Latino population of the Northeast neighborhood, and the markedly higher health outcomes in Connecticut's non-minority neighborhoods.



Geographic Area of NNSP-HIA Scope:
Northeast Neighborhood of Hartford

With a median household income of $26,180, a 21% unemployment rate, and 34.4% of households living below the poverty level, Northeast is also the poorest neighborhood in one of America's poorest cities. Hartford has lost a third of its manufacturing jobs in the last 30 years and 16% of its residents are currently unemployed,[9] as compared to the state unemployment rate of 7%[10] and a national rate of 6.3%.[11] Thirty-four percent of the heads of Northeast households are female with children under 18 and a median income of $16,630;[12] over 95% of Northeast families with children in school live in poverty (defined as eligible for free and reduced lunch at school). As a comparison, median household income for the state of Connecticut is one of the highest in the country at $69,519. In Northeast, only 55% of residents between 16 and 65 years participate in the labor force and, in 2000, only 66% of the population had a high school diploma and just 4.5% had college degrees.[13]

[8] "2010 Census." *2010 Census*. N.p., n.d. Web. 13 Oct. 2013.
9 American Community Survey. (2005-2009).
10 "Labor Market Information - State of Connecticut Unemployment Rate."*Labor Market Information - State of Connecticut Unemployment Rate*. N.p., n.d. Web. 13 Oct. 2013
11 "Databases, Tables & Calculators by Subject." *Bureau of Labor Statistics Data*. N.p., n.d. Web. 13 Oct. 2013.
[12] American Community Survey. (2005-2009)
[13] American Community Survey. (2005-2009)



Baseline data from the Hartford Police Department shows that Northeast has the highest crime rate in the city.[14] The Northeast neighborhood contains 8.6% of the city's total population, yet it accounts for 22.7% of violent crimes citywide.

Other defining characteristics of the neighborhood are neglected housing stock, inadequate infrastructure, low owner occupancy (17%),[15] a significant number of vacant buildings, limited capacity within social service agencies, limited resources for the homeless and the precariously housed, and no full service grocery stores. Additionally, access to basic services is a significant issue for Northeast neighborhood residents, as 43% of households do not own a car and public transportation options in the neighborhood are limited. Keney Park, an expansive public park adjacent to the neighborhood, is perceived as unsafe and is generally not well maintained, discouraging most residents from using it.

14"HartfordInfo.org." *HartfordInfo.org*. N.p., n.d. Web. 13 Oct. 2013

[15] Census. (2010);ACS. (2006-2010)

Table 1 below lists some of the key demographics of Northeast compared with the City of Hartford, Hartford County and the State of Connecticut, and illustrates the disparities between the NNSP-HIA's neighborhood of focus and the rest of the city, county and state.

Subject	Northeast	City of Hartford	Hartford County	Connecticut
Population	10711	124775	897259	3574097
Race				
% Black	80%	38%	12.50%	10%
% White	1%	29%	65.60%	71%
% Latino	19%	43%	15.80%	13%
Age Distribution				
Under 19	34%	34%	22%	26%
20-65	57%	57%	63%	60%
65+	9%	10%	15%	14.20%
Income	$26,180	$28,931	$63,374	$69,519
% Below Poverty Level	34.40%	34%		10%
% Children in poverty	95%		17%	15%
% With Food Stamp/SNAP benefits in last year		38%		10%
% Children eligible for free lunch			33%	29%
% Single-parent households			36%	30%
Female-headed household	34%	31%		13%
Unemployment	21%	16%	8.70%	7%
Out of the Labor Force	45%	39%		32%
Educational Attainment				
High School Graduation Rate	66%	63%	77%	82.70%
Bachelor's degree or higher (%)	4.50%	13.70%		34.80%
Students performing at grade level				
Math		61%		85%
Reading		59%		82%
Housing				
Total Number of Units	4658			
Owner-occupancy	17%	24%		67%
Public Housing as a percentage of total rental units		4%		6%
Vacancy Rate	19%	14%		9%
Crime				
Incidents of Violent Crime (Total #)	1594	7029		88443
Local violent crime as a % of total violent crime	22.70%	8%		

Table 1: Source: Census 2010, ACS 2005-2009, and Hartford Police Department

5B. Baseline Community Health Profile

The Connecticut-wide Health Equity Index[16] reveals that the City of Hartford rates worst in the state in a majority of social determinants of health, such as employment, housing, safety, education, economic security, and environmental quality, speaking to an overall poor quality of life.[17] The Health Equity Index (HEI) is a community-based electronic tool that profiles and measures the social determinants that affect health (including the social, political, economic and environmental conditions) and their correlations with specific health outcomes. It provides community-specific scores on seven social determinants of health and thirteen health outcomes. Additionally, it shows the correlations between them and GIS maps that illustrate the scores. Scores of health equity range from one to ten, with ten being the best possible score.

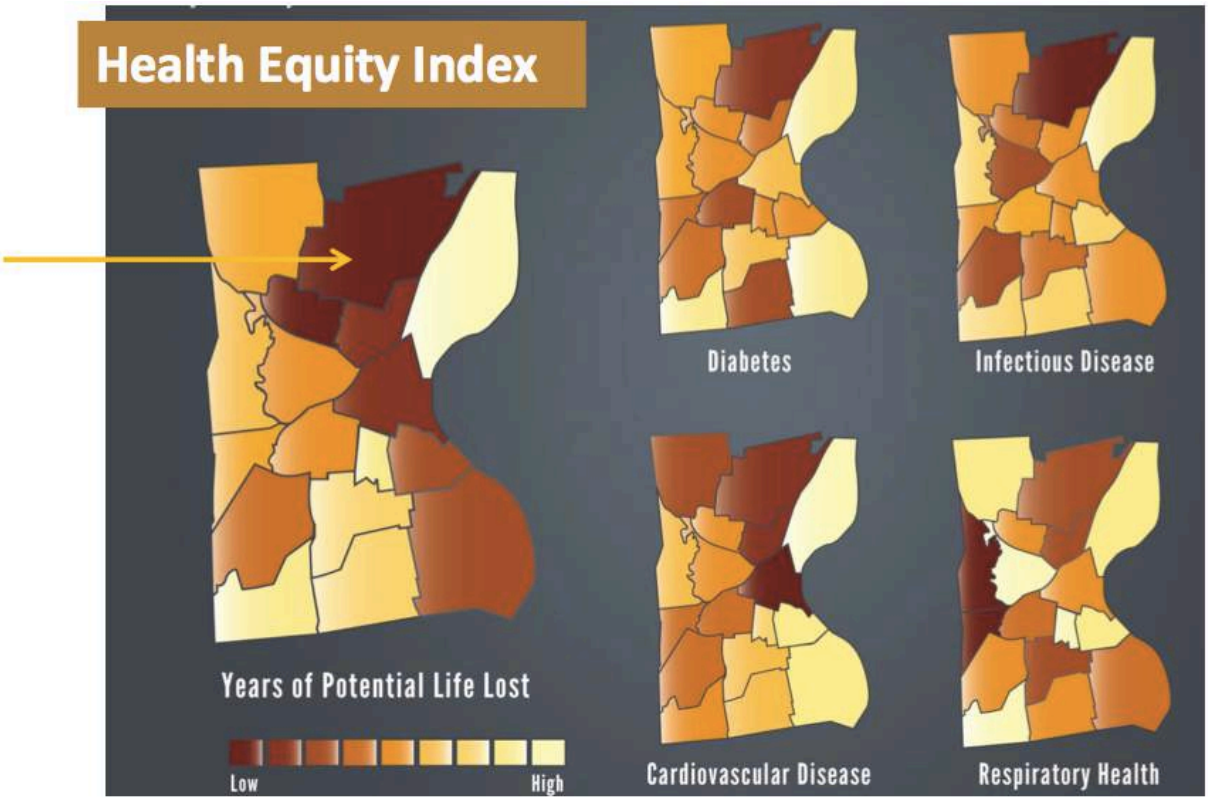
The City of Hartford also rates worst in the state on many health indicators, including asthma, with the highest emergency department usage and hospitalizations for asthma related issues. Asthma is one of the most prevalent chronic respiratory diseases among children in the country. According to the CDC, low-income populations, minorities and children living in inner cities are disproportionately at risk for this disease.[18] In 2011, the City of Hartford rate of ER visits for asthma in children under 18 years was 241.7 per 10,000 residents compared with the state rate of 61.3 ER visits. The rate of asthma hospitalizations was 41.5 per 10,000 residents compared with 12.7 for the state. For adults, 18 years and older, Hartford's rate of ER visits for asthma was 182.8, while Connecticut's rate was 44.7, and an asthma hospitalization rate of 27.2 compared to 9.1 statewide.

Of Hartford's 17 neighborhoods, the 2012 HEI ranked the Northeast neighborhood lowest in health equity, with the greatest risks for years of potential life lost (YPLL), diabetes, and infectious disease, as well as cardiovascular disease. Respiratory disease rates are only somewhat better. Northeast also has the highest levels of obesity, heart disease, infant and neonatal mortality, preventable infections and communicable diseases among Hartford neighborhoods.[19]

Northeast's health infrastructure is extremely limited. The neighborhood's physical health services are a Federally Qualified Health Center (FQHC) that lies just outside the neighborhood, one private clinic that is not easily walkable or reachable by public transportation, and a hospital that includes a primary health clinic that lies just outside the neighborhood boundaries. There are no pharmacies and only one mental health facility in the neighborhood, which also serves three surrounding neighborhoods.

16 "Cadh.org." *HEALTH EQUITY INDEX*. N.p., n.d. Web. 13 Oct. 2013.
17 City of Hartford, Department of Health and Human Services (2011). A Community Health Needs Assessment.
18 Centers for Disease Control and Prevention, 2013
19 City of Hartford, Department of Health and Human Services (2011). A Community Health Needs Assessment.

The image below shows HEI maps that address multiple health indicators. The Northeast neighborhood has the lowest rank of health equity in the city for multiple indicators such as: YPLL, diabetes, infectious disease, cardiovascular disease and respiratory health.



Source: Health Equity Index, 2012

5C. Defining Health

Social Determinants of Health

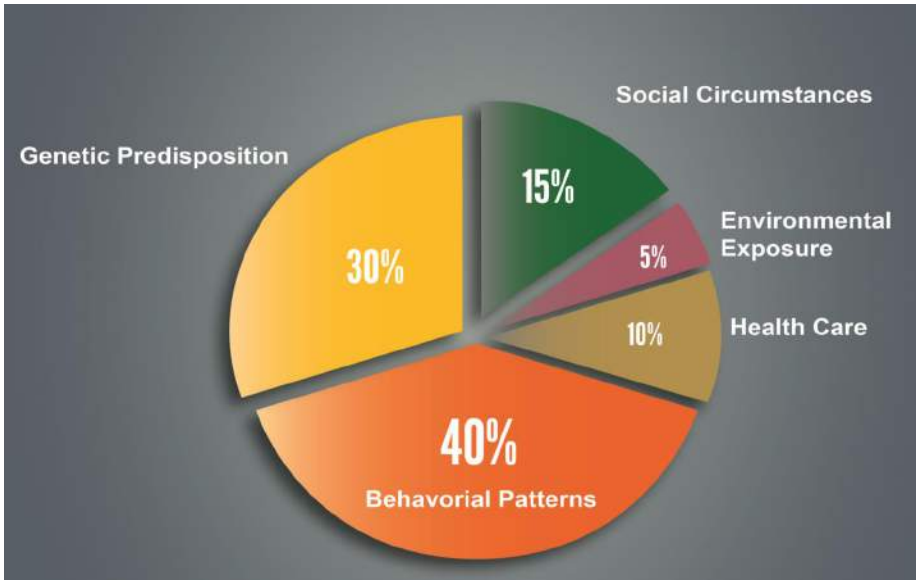
The World Health Organization defines human health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."[20] This concept of well-being encompasses a wide array of biological, sociological, economic, environmental, cultural and political factors. The links between socioeconomic status and health have been well established in the literature and are connected throughout the NNSP-HIA.

Neighborhood realities - housing quality, access to healthy food and to health care, and the local rates of unemployment, poverty and high school graduation - impinge on residents' health from birth, through the school years, adulthood and into the end of life. These social determinants of health are the so-called 'upstream determinants.'[21] Upstream determinants can pose undue and severe challenges in everyday life that instigate preventable illnesses, exacerbate chronic conditions, and even shorten average life span.

20 World Health Organization. (1948). *Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference*. New York.

21 Neighborhood Triple Aim White Paper. (2014, In Preparation). Community Solutions and Institute for Healthcare Improvement.

A review of the determinants of population health in the *Health Affairs* article "The Case for More Active Policy for Health Promotion," found that the greatest determinants of an individual's health are his or her behavioral patterns (40%), followed by genetic predispositions (30%), social circumstances (15%), medical care (10%) and environmental conditions (5%).[22]



Adapted from McGinnis et al. (2002)[22]

In a 2014 report on leveraging multi-sector investments to improve health in communities, Health Resources in Action highlighted this point: "Community development has come to understand that access to grocery stores and safe recreational opportunities are important mechanisms for promoting the well-being of communities, and the health sector is focusing more on healthy community design because they understand that many chronic illnesses and injuries are related to the ways in which neighborhoods are organized."[23] Thus, informed and inspired community development strategies have significant potential to mitigate health disparities and improve the health of neighborhoods and their residents as much as traditional medical interventions.

Many negative health outcomes can be linked to poor neighborhood conditions. A 2008 Robert Wood Johnson Foundation Commission on Health Report states, "neighborhoods can influence health in many ways. First – and perhaps most obvious – is through physical characteristics of neighborhoods. Health can be adversely affected by poor air and water quality or proximity to facilities that produce or store hazardous substances; by substandard housing conditions exposing residents to lead paint, mold, dust or pest infestation;

> Some Americans will die 20 years earlier than others who live just a short distance away because of differences in education, income, race, ethnicity and where and how they live.
>
> Robert Wood Johnson Foundation. (2009). Breaking Through on the Social Determinants of Health and Health Disparities.

22 McGinnis, J.M., Williams-Russo, P., Knickman, J.R. (2002). The case for more active policy attention to health promotion. *Health Affairs,* 21(2), 78-93.

23 Sprong, S., Stillman, L. (2014). Leveraging Multi-Sector Investments: New opportunities to improve the health and vitality of communities. *Health Resources in Action*.

by lack of access to nutritious foods and safe places to exercise combined with concentrated exposure and ready access to fast food outlets and liquor stores; and by adverse traffic conditions. Research has examined how the physical characteristics of the buildings, streets and other constructed features of neighborhoods – also referred to as the 'built environment' – affect smoking, exercise and obesity."[24] In other words, poverty and poor health outcomes are closely linked. According to a 2012 Community Health Needs Assessment by the City's Department of Health and Human Services, poverty is correlated with higher rates of chlamydia and gonorrhea, trauma-related hospitalizations, mental health emergency-department treatments, homicide, Hepatitis C, diabetes, drug- and alcohol-induced deaths, infectious and parasitic diseases.[25]

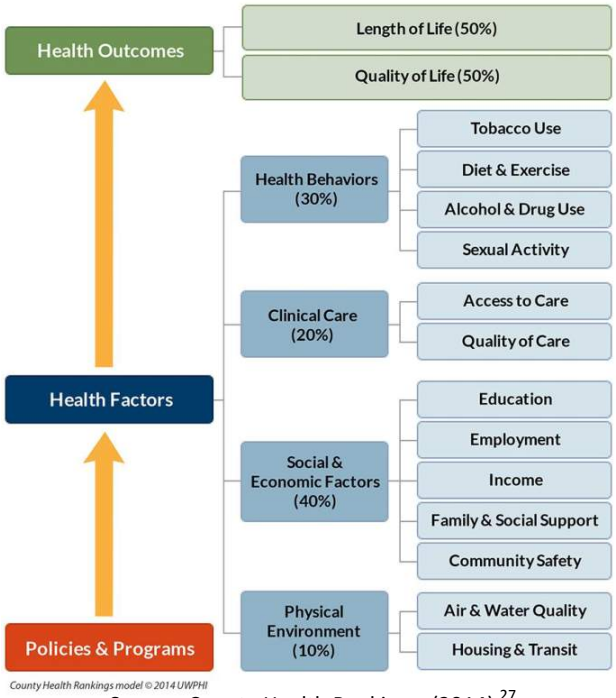
The social determinants of health framework outlines key strategies to bring about changes to a variety of systems in the public health, health care and social services sectors within Northeast and the city. This NNSP-HIA provides an actionable blueprint to: 1) improve neighborhood infrastructure with a focus on historic sites and improving underutilized properties; 2) foster safe public spaces that encourage community mobilization for positive neighborhood change; 3) coordinate fragmented social and health care services; and 4) organize residents and stakeholders to achieve measurable progress on a large collective health and prosperity goal.

Measuring a Healthy Community

While quality of life, health and social determinants can all be defined and measured in multiple ways, a healthy community can be broadly understood as one in which neighbors live to the average life expectancy, complete high school, engage in meaningful pursuits, and have income sufficient to sustain a healthy life complete with healthy food, stable housing, social connectedness and accessible social and healthcare supports.

There are numerous indices that measure the health of a population and social outcomes. For example, The United Nations Human Development Index uses life expectancy, educational attainment and income as proxies for the social outcomes described above.[26]

The County Health Rankings, developed by the University of Wisconsin Population Health Institute and the Robert Wood Johnson Foundation, measure the health of



Source: County Health Rankings. (2014) [27]

24 "Where we live matters for Our Health: Neighborhoods and Health." Robert Wood Johnson Foundation Commission to Build a Healtheir America, Issue Brief 3: September 2008.

25 City of Hartford, Department of Health and Human Services (2011). A Community Health Needs Assessment.

26 "Human Development Reports." *Human Development Index (HDI)*. N.p., n.d. Web. 13 Oct. 2013.

a county taking into account many different factors that, if improved, can help make communities healthier places to live, learn, work, and play.[27] These include health behaviors, clinical care, social and economic factors, and the physical environment, each having a number of different indicators.

The County Health Rankings track these indicators at the county level and show the disparity within and between states. In Connecticut, The County Health Rankings indicate that 11% of adults report having fair or poor health. In Tolland County, which is the state's best performing county, 9% of adults report fair or poor health. New Haven and Windham County are the state's worst performing counties with 12% of adults reporting fair or poor health.[28]

The U.S. Department of Health and Human Services has developed the Healthy People 2020 Leading Indicators to measure the health of the population at the national level.[29] These indicators are composed of 26 indicators organized under 12 topics that are tracked, measured, and reported on regularly and that address many of the social determinants of health. The Healthy People 2020 Leading Health Indicators are outlined in the table below:

Health People 2020 Leading Indicators	
Topic	**Indicator**
Access to Health Services	1. Persons with medical insurance 2. Persons with a usual primary care provider
Clinical Preventive Services	1. Adults who receive a colorectal cancer screening based on the most recent guidelines 2. Adults with hypertension whose blood pressure is under control (HDS-12) 3. Adult diabetic population with an A1c value greater than 9 percent (D-5.1) 4. Children aged 19 to 35 months who receive the recommended doses of DTaP, polio, MMR, Hib, hepatitis B, varicella, and PCV vaccines (IID-8)
Environmental Quality	1. Air Quality Index (AQI) exceeding 100 (EH-1) 2. Children aged 3 to 11 years exposed to secondhand smoke (TU-11.1)
Injury and Violence	1. Fatal injuries (IVP-1.1) 2. Homicides (IVP-29)
Maternal, Infant, and Child Health	1. Infant deaths (MICH-1.3) 2. Preterm births (MICH-9.1)
Mental Health	1. Suicides 2. Adolescents who experience major depressive episodes
Nutrition, Physical	1. Adults who meet current Federal physical activity guidelines for aerobic physical

27 "How Healthy Is Your County? | County Health Rankings." *County Health Rankings & Roadmaps*. N.p., n.d. Web. 13 Oct. 2013.
28 "County Health Rankings & Roadmaps." *County Health Rankings & Roadmaps*. N.p., n.d. Web. 13 Oct. 2013.
29 "Leading Health Indicators." *Healthy People 2020*. N.p., n.d. Web. 13 Oct. 2013.

Activity, and Obesity	activity and muscle-strengthening activity (PA-2.4) 2. Adults who are obese (NWS-9) 3. Children and adolescents who are considered obese 4. Total vegetable intake for persons aged 2 years and older
Oral Health	1. Persons aged 2 years and older who used the oral health care system in past 12 months
Reproductive and Sexual Health	1. Sexually active females aged 15 to 44 years who received reproductive health services in the past 12 months 2. Persons living with HIV who know their serostatus
Social Determinants	1. Students who graduate with a regular diploma 4 years after starting 9th grade
Substance Abuse	1. Adolescents using alcohol or any illicit drugs during the past 30 days 2. Adults engaging in binge drinking during the past 30 days
Tobacco	1. Adults who are current cigarette smokers 2. Adolescents who smoked cigarettes in the past 30 days

6. CHANGING THE NARRATIVE: FROM LOSS TO OPPORTUNITY

Neighborhood residents have a shared narrative of loss. Statements such as "*we used to have a great annual African American Day Parade… but not anymore*" referencing a more desirable past are commonplace among community members. This sense of loss is further reinforced by a multitude of interruptions to the original urban fabric of the neighborhood: vacant lots, empty structures, overgrown and blocked entrances to the surrounding Keney Park, and poorly managed intersections.

> "*There WAS a great jazz collective on Westland Street*"
>
> "*We USED TO HAVE block associations that helped keep people together*"
>
> "*There WERE a lot of good jobs at Swift* (gold leaf factory) *before things started winding down*"
>
> "*This USED to be a great place for kids… safety WAS NEVER a concern*"
>
> From conversations between Jonathan Fogelson of MSS and Northeast residents during the scoping phase of the NNSP-HIA.

Despite all its challenges, Northeast is uniquely placed to redefine itself around a renewed narrative of hope, health and prosperity. This is due to several unique characteristics of the neighborhood:

1. **People:** Northeast has an active community based leadership coalition. Additionally, non-profit and community groups are mobilizing local young people and other concerned residents to enhance the safety health, education, and overall well-being of the neighborhood. Key partners in this resident engagement effort include: Connecticut Center for Non-Violence, Hartford Communities That Care, Greater Hartford Youth Leadership Program, The Boys and Girls Club of America, The Wilson-Grey YMCA, Artist's Collective, West Indian Cultural Dance Troupe, Peacebuilders, Salvation Army, Barbour Street Chapel, UCONN Husky Program, City of Hartford Department of Families, Youth and Children. A complete list of organizations that were identified and invited to be a part of this effort is included in the Appendix D.

2. **Proximity:** Northeast is located only one mile from downtown Hartford. The downtown in the past 5 years has seen significant economic development activity and associated employment opportunities. The neighborhood is well served by interstate highways 91 and 84, and is close to educational institutions such as Capital Community College, Trinity College, University of Hartford, and the soon to be established Hartford campus of the University of Connecticut, the State's largest public university system.

3. **Amenities:** Northeast is home to the newly renovated Parker Memorial Community Center, a fully equipped community center and recreational facility. The neighborhood is also surrounded by Keney Park, a vast urban park that, while poorly maintained, contains remarkable facilities including cricket fields, a golf course and nature trails.

4. **Overall Charm:** Northeast has an abundant housing stock featuring single and multi-family homes, many of which have "good bones" and a historic character, some of which are in disrepair. Though most homes are owned by absentee landlords, many include front yards, back yards, and large trees. The neighborhood has many residential streets defined by a truly impressive street tree canopy**.**

5. **Culture:** Northeast is home to many cultural assets, including artists, organizations and public spaces and venues. As part of the NNSP-HIA process, we created a database of cultural assets that can be leveraged to support our creative place-making efforts within the plan. The list of cultural assets identified as well as specific activities that can link to the NNSP-HIA opportunities, such as vacant lot reactivation, safe streets and intersections and activating Keney Park, can be found in Appendix J.

Building on these assets, this report summarizes neighborhood-specific opportunities that aim to improve health and safety in the neighborhood, increase employment opportunities for residents, and contribute to overall health and well-being in the community. We will discuss each of these assets in greater detail in the final Opportunities/Recommendation section of the report

6A. Scoping: Developing the Opportunities

As mentioned above, the scope of the HIA was developed in conjunction with the creation of the Northeast Neighborhood Sustainability Plan. We worked with stakeholders to develop a plan that includes opportunities that are specific, actionable, plausible, and that respond to the needs of Northeast neighborhood residents.

The scoping process started in advance of the HIA process, in the autumn of 2012 when CS engaged Michael Singer Studio (MSS) to create a sustainability plan for the Northeast neighborhood. Following a period of initial research and community engagement, we developed a list of potential plan concepts or "opportunities." MSS undertook broad research on health supporting/job creation practices in other communities in the United States and internationally that potentially matched these opportunities.

To identify and respond to neighborhood resident priorities, CS used surveys, community meetings and events in a process led by our Community Engagement Coordinators. Through a door-to-door survey,

residents stressed that crime/violence, unemployment, and lack of youth engagement are the three most pressing issues the community faces. We integrated this survey data with the publically available data from the City of Hartford Department of Health and Human Services and the Connecticut Health Equity Index to capture the most prevalent and urgent health risks faced by residents: cardiovascular disease, diabetes, obesity, and asthma. The social determinants of health framework encompasses residents' concerns with employment and safety as well as the specific physical health indicators as critical drivers of population health. These became the priority considerations of the NNSP-HIA.

In subsequent community meetings (that included an HIA training) we created more detailed profiles of the employment, safety, and health concerns of residents and discussed improvements to the physical environment that could improve outcomes in these areas. Opportunities for physical interventions were added or removed depending on their perceived feasibility and whether our team had a unique ability to drive change. For example: some stakeholders initially raised the upcoming relocation of a transit bus depot in the neighborhood as an important issue. However, because existing coalitions are already actively working on the issue and engaging the community in taking action, the HIA team elected to prioritize other opportunities.

6B. Stakeholder Engagement in the NNSP-HIA Process

Advisory Committee

To identify opportunities that are specific, actionable, plausible and that respond to the needs expressed by Northeast residents, we established an Advisory Committee of high-level decision-makers across a wide range of disciplines that included city and state-level policy-makers, community leaders and heads of organizations and social service providers. Because the Plan addresses a wide range of fields or sectors, there was not a single "decision-maker" we sought to inform (relative to other HIAs focused on one decision-making process).

We selected individuals and organizations that showed a strong commitment to issues facing Northeast or who had expertise and influence on health and community development policies in Hartford or statewide. Others were invited based on the breadth of their networks and ability to rally support for the implementation of the plan. We initially invited 30 members and received positive responses from 25. This initial group was not meant to be final or all-inclusive, but to serve as an initial cohort to assist in developing a comprehensive stakeholder engagement process and in identifying others who should be engaged as champions. We subsequently included new members who surfaced as important stakeholders in the scope of the plan. We also added members who have conducted HIAs in Connecticut or who are interested in seeing the use of HIAs in the state increase.

We held our first NNSP-HIA Advisory Committee meeting on Oct. 9th, 2013 at the Keney Park Pond House in Northeast, thanks to the generosity of the Friends of Keney Park, a nonprofit organization committed to the preservation, maintenance, and improvement of the park and a key partner in our work on this NNSP-HIA. The agenda for the initial meeting included:

1. An introduction to the NNSP-HIA project,
2. An overview of the HIA process and how it can help the neighborhood and the City,
3. A review of potential neighborhood improvements to identify and prioritize opportunities that would have the greatest impact on the health and well-being of residents, and
4. The role of the Advisory Committee in the process.

NNSP-HIA Workshop

Following the morning Advisory Committee meeting on Oct. 9th and continuing on Oct. 10th, we led a 2-day NNSP-HIA workshop and training in conjunction with the Georgia Health Policy Center and the Health Impact Project. In the workshop stakeholders received an overview of the intended Northeast Neighborhood Sustainability Plan as well as the opportunity through the Health Impact Project to include an HIA in the development of the sustainability plan. Participants learned about HIAs, the steps involved, and about its potential importance as a tool in developing a plan to improve the health and quality of life of neighborhood residents.

This workshop was open to the public and over 100 individuals were personally invited. This included neighborhood residents, representatives of community groups, service providers, and agencies that have touched on the issues facing Northeast. Over 50 people representing more than 30 different organizations and municipal and state agencies attended.

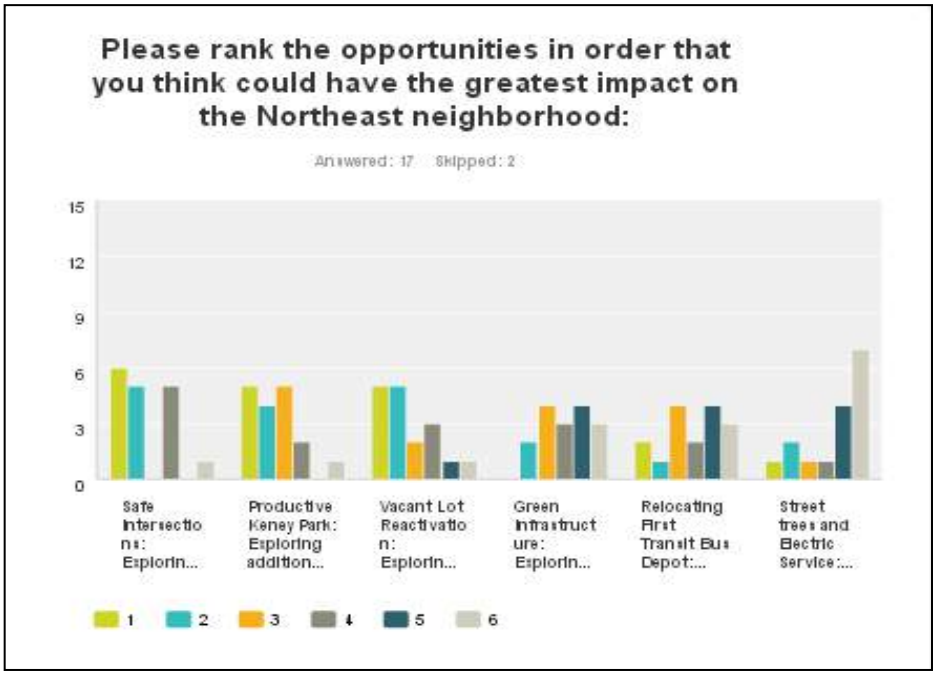
Stakeholder Survey

Stakeholder engagement continued after the October workshop with an update in December to share the comments, questions and other feedback that emerged from the October workshop, as well as an initial list of opportunities for physical improvement initiatives and the potential health impacts of each. We requested committee members, as well as other attendees at the workshop, to complete a survey asking them to rank and comment on the opportunities that had emerged to that point. Specifically, the survey queried:

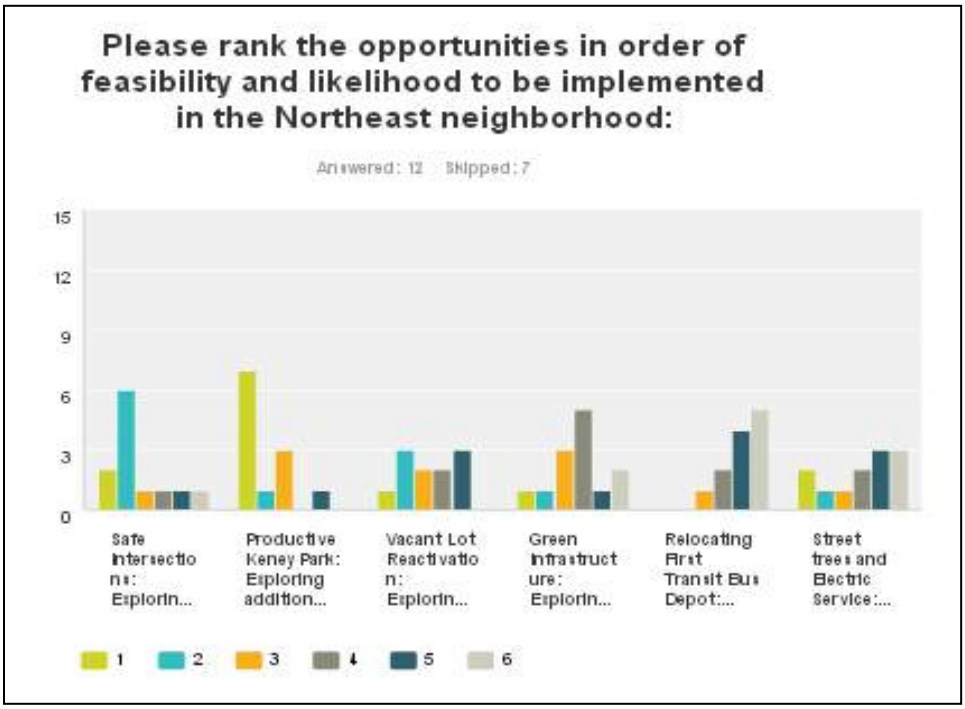
1. Of the potential opportunities listed, please rank them in the order that you think could have the greatest impact on the health and well-being of Northeast neighborhood residents.
2. Of the potential opportunities listed, please rank them in order of feasibility and likelihood to be implemented in partnership with municipal agencies, nonprofits, community organizations and neighborhood residents.
3. For each opportunity, what are the main challenges you foresee to implementation?
4. Additional comments and/or other opportunities not listed here that should be included.

The survey was distributed via email to all 100+ stakeholders who had been invited to the October workshop, ensuring that even those who were not able to attend were given the opportunity to provide feedback at an early stage. Our Community Engagement Coordinator also distributed the survey as part of reporting on the NNSP-HIA process at multiple community meetings and events, including the December and January Northeast Neighborhood Revitalization Zone (NRZ) meetings. The NRZ and its function are discussed in further detail later in this document under the “Community Meetings” section.

Of the 20 survey responses we received, participants ranked a focus on Safe Intersections (35%) as the most likely to have the greatest impact on the health and well-being of residents, followed by Vacant Lot Reactivation and Productive Keney Park (tied at 29%), Relocating First Transit Bus Depot (12.5%), Street Trees and Electric Service (6%), and, finally, Green Infrastructure (0%).



On the question of the feasibility and likelihood of implementation, respondents ranked Productive Keney Park opportunities as the most likely and feasible (58%), followed by Safe Intersections and Street Trees & Electric Service (tied at 17%), Vacant Lot Reactivation (9%), Green Infrastructure (8%) and Relocating First Transit Bus Depot (0%).



Some key challenges and barriers that respondents raised to many of the opportunities included City codes and zoning, land ownership, competing priorities at the City and State levels, fear of change, overcoming the stigma of Keney Park as dangerous, and making sure that there is community involvement in decision-making. A complete list of responses to the survey is included in Appendix F.

> "Funding, policy/local government approval" – Referring to challenges to opportunities for Keney Park
>
> "City guidelines and coding along with community involvement and opinions and concern of the community" – Referring to challenges to vacant lot reactivation
>
> "Infrastructure planning, zoning, and development of common vision among multiple partners" – Referring to challenges to creating safer intersections

Community Meetings

As noted earlier, we reported on the progress of the NNSP-HIA and invited survey responses at the following monthly Northeast Neighborhood Revitalization Zone (NRZ) meetings. All 17 Hartford neighborhoods have an NRZ, which is the mechanism for the City to communicate and work with neighborhoods on revitalization efforts. Each NRZ includes residents, businesses and government representatives who meet monthly to determine the vision and priorities of individual neighborhoods. Throughout the NNSP-HIA process our Community Engagement Coordinator provided an update at each monthly NRZ meeting and invited feedback from attendees. Over the 6-month period in which the NNSP-HIA opportunities were developed, our Community Engagement Coordinator attended over 75 community meetings and events to speak with residents about the project and solicit their views, both in conversation and through surveys.

The final meeting, which included the Advisory Committee, stakeholders and new Opportunity partners, took place on Friday, May 16, 2014. The meeting proved to be a galvanizing event that aligned the full range of stakeholders behind the final recommendations. This event set the stage for CS and partners to hit the ground running on implementing the final NNSP-HIA opportunities.

After receiving feedback through multiple engagement and outreach mechanisms over 6 months, we narrowed down the initial list to four opportunities that were developed in conjunction with the Advisory Committee and other stakeholders into a draft sustainability plan. The final scope of the NNSP-HIA includes the following four opportunities:

1. **Safe Intersections:** To make street crossings at intersections safer for pedestrians, and the intersections themselves safer for bicyclists.

2. **Productive Keney Park:** To uncovering and define methods through which Keney Park will become more actively productive for Northeast.

3. **Vacant Lot Reactivation:** To turn city owned vacant lots from a liability within the community into a resource for the community. Reactivation can include community gardens, wildflower meadows, rain gardens, outdoor gyms and play areas, and can support arts and cultural activities.

4. **Street Trees and Electric Service:** To protect, maintain and expand the mature and abundant street tree forest that exists in Northeast.

This draft NNSP has been distributed publically to stakeholders via email and social media and at community meetings including NNSP-HIA Advisory Committee meetings, Neighborhood Revitalization Zone meetings, and other public gatherings in Northeast.

To date, we have three projects in development for implementation that directly respond to the recommendations of the plan, including activities surrounding safe intersections, productive Keney Park and vacant lot reactivation.

7. ASSESSMENT & RECOMMENDATIONS

7A. Assessment Overview

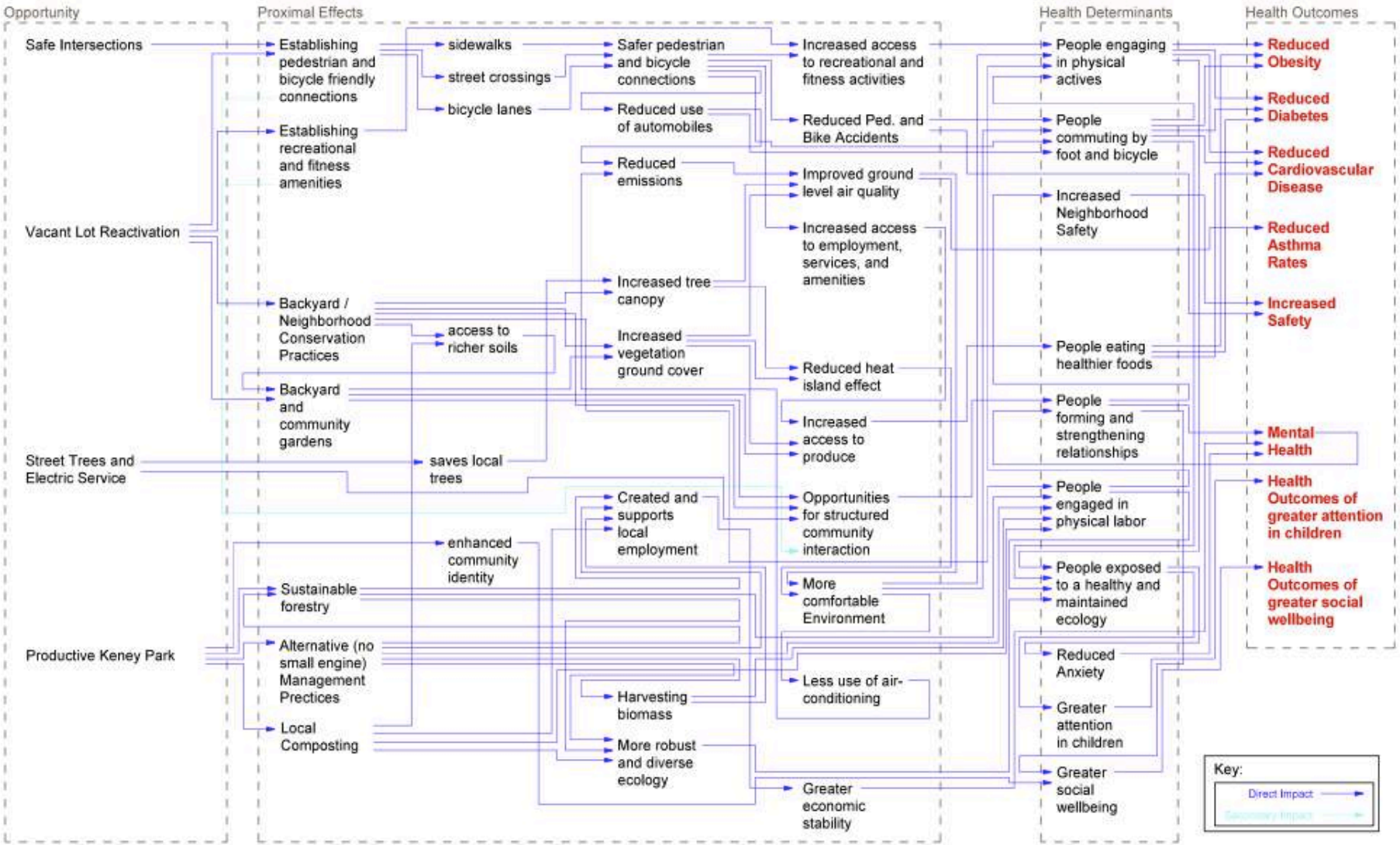
The assessment is the third step in the HIA process. It provides an in-depth analysis of baseline conditions and health impacts using available qualitative or quantitative evidence.[30] The assessment applies evidence-based health outcomes as a lens to guide the development of plan recommendations and interventions likely to improve the health and quality of life of Northeast residents. In collecting baseline data and reviewing relevant literature, this step helps us to determine the potential health impacts of the four opportunities identified on the physical environment, health and quality of life of Northeast neighborhood.

In this section, we will discuss the interplay between the social determinants of health framework and the more traditional view of the drivers of health. CS and MSS documented the existing social, physical and health conditions of the neighborhood to inform the plan recommendations, the scope of the project, and the potential links between environmental factors (air quality), built environment (walkability, access to fresh produce), social factors (unemployment and crime) and health.

We developed the pathways below for each of the opportunities at the initial stages of the NNSP-HIA development. The pathways helped our multi-sector team to visualize the potential health and social impacts of the initial opportunities identified. We were also able to use the NNSP-HIA as an engagement tool to help stakeholders understand how these four opportunities were connected to the broad health and well-being of residents in the neighborhood. The individual pathways for each opportunity can be found in the recommendations section.

30 Harris, P. Harris-Roxas, B., Harris, E. and Kemp, L. (2007). Health impact assessment: a practical guide. Centre for Health Equity Training, Research and Evaluation. Part of the UNSW Research Centre for Primary Health Care and Equity, UNSW, Sidney, Australia.

NNSP-HIA_Pathways-Draft_2014-02-05: Overall



7B. Recommendations: Final NNSP-HIA Opportunities

Combining the evidence base we have built (and continue to build) and with the participation and feedback of over 50 individuals, 30 different community-based organizations and city and state agencies, we prioritized four opportunities:

1. **Safe Intersections:** To make intersections safer for pedestrians, vehicles and bicyclists.

2. **Productive Keney Park:** To uncover and define methods through which Keney Park will become a more active resource for residents and more economically productive for Northeast.

3. **Vacant Lot Reactivation:** To turn city owned vacant lots from a liability to a resource for the community.

4. **Street Trees and Electric Service:** To protect, maintain and expand the mature and abundant street tree forest that exists in Northeast.

The following Opportunity sections below outline the existing conditions, aspirations, national precedents, strategies for implementation, and possible partners as well as the potential impacts on the health, safety, and economic stability of the Northeast neighborhood for each of the four documented opportunities. The NNSP segment will be expanded throughout the next month through further engagement with neighborhood residents and stakeholders and the input of the local Youth Leadership Council (YLC) organized by our Community Mobilization Coordinator. The YLC will help select intersections where safety can be improved and vacant lots that can be activated to serve community purposes.

1) OPPORTUNITY 1: SAFE INTERSECTIONS

This opportunity focuses on increasing safety for pedestrians and bicyclists in Northeast. While it emphasizes issues around traffic-related safety, it touches upon other issues of personal safety and perceptions of personal safety as a principal concern raised by community residents.

> *"Hartford, CT is ranked the 29th most dangerous metro area in the United States for pedestrians, having a higher pedestrian danger index… than the Boston and New York metro areas… The annual collision rate for pedestrians under age 20 in Hartford…* (is) *more than twice the mean national rate."*
>
> (LaChance-Price, *2005*)

Pedestrians in the Northeast neighborhood, particularly children, are uniquely exposed to risk of injury by motor vehicle. This is due to a combination of two key factors:

1. Hartford's standing as one of the most dangerous metro areas in the nation for pedestrians, and
2. The fact that the risk of child pedestrian injury is linked to lower socioeconomic status.[31]

31 LaChance-Price, L. (2005). Child Pedestrian Safety in Hartford, Connecticut: A Survey of Hartford Crossing Guards: University of Connecticut.

Nationally, neighborhoods are becoming increasingly clogged by traffic.[32] Within the span of one generation, the percentage of children walking or bicycling to school has dropped precipitously, from approximately 50% in 1969 to just 13% in 2009. While distance to school is the most commonly reported barrier to walking and bicycling, private vehicles still account for half of school trips of between 1/4 and 1/2 mile — a distance easily covered on foot or bike.[33] In 2009, American families drove 30 billion miles and made 6.5 billion vehicle trips to take their children to and from schools, representing 10-14% of traffic on the road during the morning commute.

In terms of pedestrian safety, pedestrians are more than twice as likely to be struck by a vehicle in locations without sidewalks. In 2009, approximately 23,000 children ages 5-15 were injured and more than 250 were killed while walking or bicycling in the United States. From 2000-2006, 30% of traffic deaths for children ages 5-15 occurred while walking or bicycling. The medical costs for treating children's bicycle and pedestrian accidents ending in fatalities was $839 million nationally in 2005 and another $2.2 billion in lifetime lost wages.[33]

The Journal of the American Medical Association reports that in 2003-2004, 17.1% of U.S. children and adolescents were overweight, with the rates continuing to increase.[34] These children are at an increased risk for developing health problems such as heart disease, diabetes, cancer, and hypertension. Activity levels for many children have declined because of a built environment that is unsafe for walking and bicycling, the low percentage of children who take physical education in school, and the popularity of sedentary leisure-time activities.

Although the overall obesity prevalence stabilized, this trend masks a growing socioeconomic gradient, the prevalence of obesity among high-socioeconomic status adolescents has decreased in recent years, whereas the prevalence of obesity among their low-socioeconomic status peers has continued to increase. Additional analyses suggest that socioeconomic differences in the levels of physical activity, as well as differences in calorie intake, may have contributed to the increase in obesity among these adolescents.[35]

Health Impacts

Research demonstrates that children who walk or bicycle to school have higher daily levels of physical activity and better cardiovascular fitness than do children who do not actively commute to school.[36-38] Children who walk to school get three times as much moderate to

32 "Safe Routes to School National Partnership." *Safe Routes to School National Partnership*. N.p., n.d. Web. 13 Oct. 2013.

33 "Safe Routes to School National Partnership." *Safe Routes to School National Partnership*. N.p., n.d. Web. 13 Oct. 2013.

34 Ogden, C.L., Carroll M.D., Curtin L.R., McDowell M.A., Tabak C.J., Flegal K.M. Prevalence of overweight and obesity in the United States, 1999-2004. *JAMA*. 2006 Apr 5;295(13):1549-55.

35 Frederick, C. B., Snellman, K., & Putnam, R. D. (2014). Increasing socioeconomic disparities in adolescent obesity. *Proc Natl Acad Sci U S A, 111*(4), 1338-1342. doi: 10.1073/pns.1321355110

36 Davison, K., Werder, J.L., and Lawson, C. T. (2008). Children's Active Commuting to School: Current Knowledge and Future Directions. *Preventing Chronic Disease*. 5(3): A100.

37 Cooper, A., Page, A.S., Foster, L.J., and Qahwaji, D. (2003). Commuting to school: Are children who walk more physically active? *Am J Prev Med, 25*(4) 273-276.

38 Lubans, D.R., Boreham, C.A., Kelly, P. and Foster, C.E.(2011). The relationship between active travel to school and health-related fitness in children and adolescents: a systematic review. *Inter J Behav Nutr Phys Act, 8*(1), 5.

vigorous physical activity during their walk to school than during recess.[39] In a study of adolescents, 100% of the students who walked both to and from school met the recommended levels of 60 or more minutes of moderate to vigorous physical activity on weekdays.[40] Walkable neighborhoods encourage more walking. Older women who live within walking distance of trails, parks or stores recorded significantly higher pedometer readings than women who did not. The more destinations that were close by, the more they walked.[41] Children in neighborhoods with sidewalks and safe places to cross the street are more likely to be physically active than children living in neighborhoods without those safe infrastructure elements.[42] Communities that are more walkable and bikeable and that have pedestrian-accessible destinations see increased physical activity levels. A 5% increase in neighborhood walkability has been associated with 32.1% more minutes devoted to physically active travel. The literature shows than an increase in physical activity has an impact on obesity, one of the main health issues facing residents of the Northeast neighborhood:

1. A study among a large, nationally representative sample of U.S. youth reported that active commuting to school was positively associated with moderate-to-vigorous physical activity and inversely associated with BMI z-score and skinfold thicknesses.[43]
2. A pilot study of walking school buses found that participants in the walking school bus increased the frequency of walking to school and the minutes of daily moderate-to-vigorous physical activity.[44]
3. Small lifestyle changes in diet (to eliminate 100 kcal/day) and physical activity (to walk an additional 2000 steps/day) could be useful for addressing childhood obesity by preventing excess weight gain in families.[45]
4. Evidence also shows that consistent behavioral changes impacting an average of 110 to 165 kcal/day may be sufficient to counterbalance the energy gap resulting in excessive weight gain.[46]
5. Researchers reported that 100% of the students who walk both to and from school accumulate an average of 60 or more minutes of MVPA on weekdays.[47]
6. Another study suggests that a 5% increase in neighborhood walkability is associated with 32.1% more minutes devoted to physically active travel and about one-quarter point lower BMI (0.228).[48]

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39 Cooper, A. R., Page, A. S., Wheeler, B. W., Griew, P., Davis, L., Hillsdon, M., and Jago, R. (2010). Mapping the Walk to School Using Accelerometry Combined with a Global Positioning System. *Am J Prev Med, 38*(2), 178-183.

40 Alexander, L. M., Inchley, J., Todd, J., Currie, D., Ashley, R. and Currie, C. (2005). The Broader Impact of Walking to School Among Adolescents: Seven Day Accelerometry Based Study. *Brit Med J.* 331: 1061-1062.

41 King, W. Am. (2003). Journal of Public Health.

42 Davison, K., Lawson, C. Do attributes in the physical environment influence children's physical activity? A review of the literature. *Int J Behav Nutr Phys Act, 3*.

43 Mendoza, J.A., Watson, K., Nguyen, N., Cerin, E., Baranowski, T., Nicklas, T.A. (2011). Active Commuting to School and Association with Physical Activity and Adiposity among US Youth. *J Phys Act Health, 8*(4), 488-495.

44 Mendoza, J.A., Watson, K., et al. (2011). The Walking School Bus and Children's Physical Activity: A Pilot Cluster Randomized Controlled Trial. *Pediatrics*.

45 Hill, J. O., Ogden, Lorraine G., Rodearmel, Susan J., Stroebele, Nanette, and Wyatt, Holly R. (2007). Small Changes in Dietary Sugar and Physical Activity as an Approach to Preventing Excessive Weight Gain: The America on the Move Family Study. *Pediatrics, 120*, e869-e879.

46 Wang, C. Y., Gortmaker, Steven L., Sobol, Authur M. and Kuntz, Karen M. (2006). Estimating the Energy Gap Among US Children: A Counterfactual Approach. *Pediatrics, 118*, 1721-1733.

47 Alexander, L. M., Inchley, J., Todd, J., Currie, D., Ashley, R. and Currie, C. (2005). The Broader Impact of Walking to School Among Adolescents: Seven Day Accelerometry Based Study. *Brit Med J.* 331: 1061-1062.

7. Additionally, research done on Shape Up America's 10,000 Steps A Day Program, which including 3,234 people with pre-diabetes, walking or exercising 5 times a week for 30 minutes, showed that participants lost 5% to 7% of their body weight on average and reduced their risk of diabetes by 58%.[49]

Increasing walkability can also positively impact traffic congestion. It has been reported that motor vehicle emissions contribute nearly a quarter of world energy-related greenhouse gases and cause non-negligible air pollution primarily in urban areas. Reducing car use and increasing ecofriendly alternative transport, such as public and active transport, are efficient approaches to mitigate harmful environmental impacts caused by a large amount of vehicle use. Besides the environmental benefits of promoting alternative transport, it can also induce other health and economic benefits.[50] One article examines single-use, low-density land use patterns and reports that a 5% increase in neighborhood walkability is associated with 6.5 % fewer vehicle miles traveled (VMT) per capita.[51] A review of the success of the Safe Routes to School program in Marin County reports a 64% increase in the number of children walking to school, a 114% increase in the number of students biking, and a 91% increase in the number of students carpooling.[52]

Strategies for Implementation

Selecting Intersections

A review of the accident and crime data supports focusing on a short list of specific intersections and the pedestrian connections between them (sidewalks, pathways, etc.). Accident data for the City of Hartford allowed us to identify the specific intersections that have the most vehicle accidents and the time of day and day of the week that are most problematic at each given intersection.

We also reviewed the weekly report on violent crime distinguished by neighborhood published by the Hartford Police Department.[53] This allowed us to see where neighborhood crimes are reported, arrests made, what types of crimes are committed and the "hot spots" where criminal incidents are most concentrated. In addition to the data collected from public domains, the Youth Leadership Council is providing a map they have created identifying intersections perceived as hazardous in terms of vehicle and pedestrian safety as well drug activity or gang violence. We have not documented evidence that there is a pronounced mistrust of the police. In fact, most residents view the police as a positive component of the community and generally do not report harassment by the police as an issue.

As part of the final NNSP-HIA recommendations, we have highlighted the intersections to

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48 Frank LD, A. M., Schmid TL. (2004). Obesity relationships with community design, physical activity, and time spent in cars. *Am J Prev Med, 27*, 87-96.

49 "10,000 Steps." *10,000 Steps*. N.p., n.d. Web. 13 Oct. 2013.

50 Xia, T., Zhang, Y., Crabb, S., and Shah, P. (2013). Cobenefits of Replacing Car Trips with Alternative Transportation: A Review of Evidence and Methodological Issues. *J Env Pub Health*, 2013, 797312..

51 Lawrence, et al., 2006

52 Staunton, et al., 2003

53 "Crime Statistics." *Hartford.Gov* -. N.p., n.d. Web. 13 Oct. 2013.

evaluate based on primary, publically available data from city and state agencies and secondary data in the form of surveys and interviews of community members. The proximity of the intersections to other locations highlighted in the NNSP-HIA was used in the selection process as well. In light of these considerations, we recommend the two following intersections for attention:

1. "Five Corners" (the intersection of Garden and Westland Streets and Love Lane) and
2. The intersection of Waverly and Charlotte Streets

We recommend these intersections for priority attention because:

1. These are the two main intersections leading from the core of Northeast to schools and other community amenities directly to the north, and
2. Five Corners is located directly by the Swift Factory and any improvements there will amplify ongoing efforts to reactivate the vacant factory lot and create a community hub.

Safe Routes to School

The U.S. Department of Transportation's Safe Routes to School program (SRTS) provides funding for both educational activities and infrastructural improvements that aim to increase pedestrian safety such as street markings, sidewalk improvements and bulb-outs, lighting, etc. SRTS programs employ the "Five E's"[54] that have demonstrated measurable change in the way students and parents travel to and from school, increasing students walking and bicycling. The Five E's include:

1. **Evaluation –** Monitoring and documenting outcomes, attitudes and trends through the collection of data before and after the intervention(s);

2. **Engineering –** Creating operational and physical improvements to the infrastructure surrounding schools that reduce speeds and potential conflicts with motor vehicle traffic, and establish safer and fully accessible crossings, walkways, trails and bikeways;

3. **Education –** Teaching children about the broad range of transportation choices, instructing them in important lifelong bicycling and walking safety skills and launching driver safety campaigns in the vicinity of schools;

4. **Encouragement –** Using events and activities to promote walking and bicycling and to generate enthusiasm for the program with students, parents, staff and surrounding community; and

5. **Enforcement –** Partnering with local law enforcement to ensure that traffic laws are obeyed in the vicinity of schools (this includes enforcement of speeds, yielding to pedestrians in crosswalks and proper walking and bicycling behaviors) and initiating community enforcement such as crossing guard programs and student safety patrols.

Safe Routes to School projects focus on infrastructure improvements, student traffic education, and driver enforcement that improve safety for children, many of whom already walk or bicycle

54 "Safe Routes to School National Partnership." *Safe Routes to School National Partnership*. N.p., n.d. Web. 13 Oct. 2013

in unsafe conditions. A focus on increasing pedestrian and bicycle safety, through SRTS projects, and other traffic calming measures has been shown to:

1. Reduce vehicle accidents, reducing pedestrian and bicycle injury;
2. Increase the number of children walking and bicycling, increasing physical activity and decreasing rates of obesity; and
3. Reduce traffic congestion, improving air quality and reducing pedestrian and bicycle injuries.

SRTS programs and their efforts in neighborhoods can impact the number of vehicle accidents. A safety analysis by the California Department of Transportation estimated that the safety benefit of SRTS was up to a 49% decrease in the childhood bicycle and pedestrian collision rates.

SRTS programs can also impact the amount of physical activity that students are getting daily. A study of SRTS programs in California showed that schools that received infrastructure improvements through the program saw between 20 and 200 percent increases in walking and bicycling.[55]

SRTS is administered by the State Department of Transportation, which during 2012 alone granted between $400,000 and $500,000 for infrastructure improvements in each of the following Connecticut communities: Coventry, Southington, Plainville, Vernon, Waterbury, and Stratford. Given that Hartford children, especially in Northeast, are considered particularly vulnerable to injury by motor vehicles, and given that there has been no SRTS investment in Hartford as of yet, an application for funding would likely be seriously considered. A local school in partnership with the NRZ and the City's Department of Public Works would be a strong group of local champions for this federal program.

While currently no new SRTS funding is available for infrastructure improvements, it is typically prudent to do planning in advance of any implementation funding availability. This approach creates a "shovel ready" project that can be positively considered by SRTS when infrastructure funds are available, or when potential funding from other sources is identified. In order to apply for SRTS funding an SRTS Plan needs to be developed by a community-based coalition. Connecticut's SRTS can provide some technical support and guidance for the development of a Northeast Neighborhood SRTS Plan. Additionally, if an SRTS Plan is developed by a neighborhood coalition, it may be able to create additional benefits to the neighborhood. For example, an SRTS Plan can include requirements for procuring services from Northeast neighborhood based businesses or businesses that hire community residents (e.g. roadwork and construction jobs). An SRTS Plan can also include opportunities for vocational and job training in the planning and implementation of improvements.

Community Solutions is seeking community partners to form a coalition that will advance a Northeast Neighborhood SRTS Plan. Partners such as the Hartford Public School District, local schools, parent groups, block associations, faith based organizations, and the City's

55 Orenstein, M. R., Gutierrez, N., Rice, T. M., Cooper, J. F., and Ragland, D. R. (2007). Safe Routes to School Safety and Mobility Analysis. *UC Berkeley Traffic Safety Center. Paper UCB-TSC-RR-2007-1.*

Departments of Public Works and Planning can all come together to spearhead such an effort. Such an effort is in line with "One City One Plan," Hartford's comprehensive plan, as well as several of the Capitol Region Council of Government's plans including its Regional Pedestrian and Bicycle Plan. Community Solutions is hopeful that initial planning support might be available through the City as well as through the Capitol Region Council of Governments.

A review of the national SRTS website shows many precedents for communities like Northeast to use SRTS as an important tool in improving health and making the school commute safer for students. Successful projects have been launched in Nebraska, Texas and South Carolina. In these examples groups have worked on everything from street improvements to walk and bike to school days to using the commute to discuss health lifestyle. For specific precedents in the state of CT, we will work with the State's SRTS Coordinator for to identify the most relevant and useful precedents for Northeast and in the preparation of a plan that will be competitive for SRTS investments.

Community groups that initiate a successful SRTS program gain the ability to require a portion of the construction budget be set aside for local or disadvantaged businesses, or at a minimum relate to local vocational training and job placement efforts. To ensure that Northeast's SRTS plan can have multiple beneficial impacts on the community, we will highlight precedents that:

1. Targeted communities with similar socioeconomic conditions to Northeast,
2. Did not require active involvement by a school district or a municipal school system,
3. Provided financial support for infrastructural improvements, and
4. Are in CT or nearby states and are in urban locations.

Safe Intersections as a Crime Reduction Strategy

Targeted strategies to reduce crime at key intersections is another important way to increase safety of public spaces within a community. Two examples, one already working in Hartford, include:

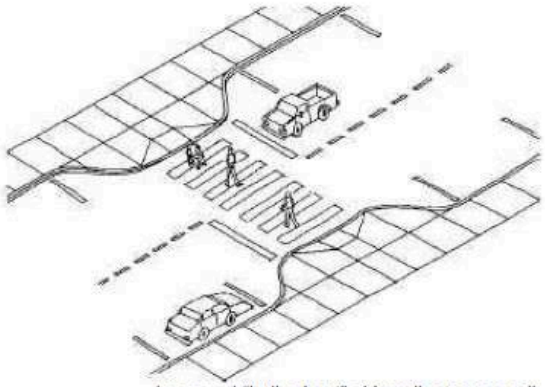
1. Peacebuilders, an initiative of the Hartford Department of Recreation, Children, Youth and Families, Youth Services Division, was established in four neighborhoods of Hartford with the highest numbers of violent crime by youth. These neighborhoods include Northeast, Upper Albany, Frog Hollow, and Barry Square. This program works in partnership with the Hartford Police Department and Saint Francis Hospital and was developed based on a local and national survey of violence intervention strategies and involves teams from the police, hospital and community outreaching and connecting with youth participating in and affected by violence in their neighborhoods.[56]
2. The Cure Violence model is an applicable method that can be utilized to help deal with the crime in Northeast. The Cure Violence model tackles violence as if it is an infectious disease. An epidemiological analysis is used to target safety initiatives within violence prone communities. The three main tactics utilized in the Cure Violence model are: 1) Interrupt transmission, 2) Identify and change the thinking of highest potential

56 "Peacebuilders." *Peacebuilders*. N.p., n.d. Web. 13 Oct. 2013.

transmitters, and 3) Change group norms.[57] The Cure Violence model has been successful in Crown Heights Brooklyn, NY and Baltimore, MD, which are neighborhoods that share characteristics with Northeast and Hartford.

By incorporating ongoing programs that are working on safety and youth initiatives in Northeast and in the City and the State, we are able to build on existing infrastructure in making interventions that are likely to decrease vehicle accidents and crime on the streets and lead to safer streets and public spaces for residents to utilize for physical and social activities.

Safety and school related educational activity

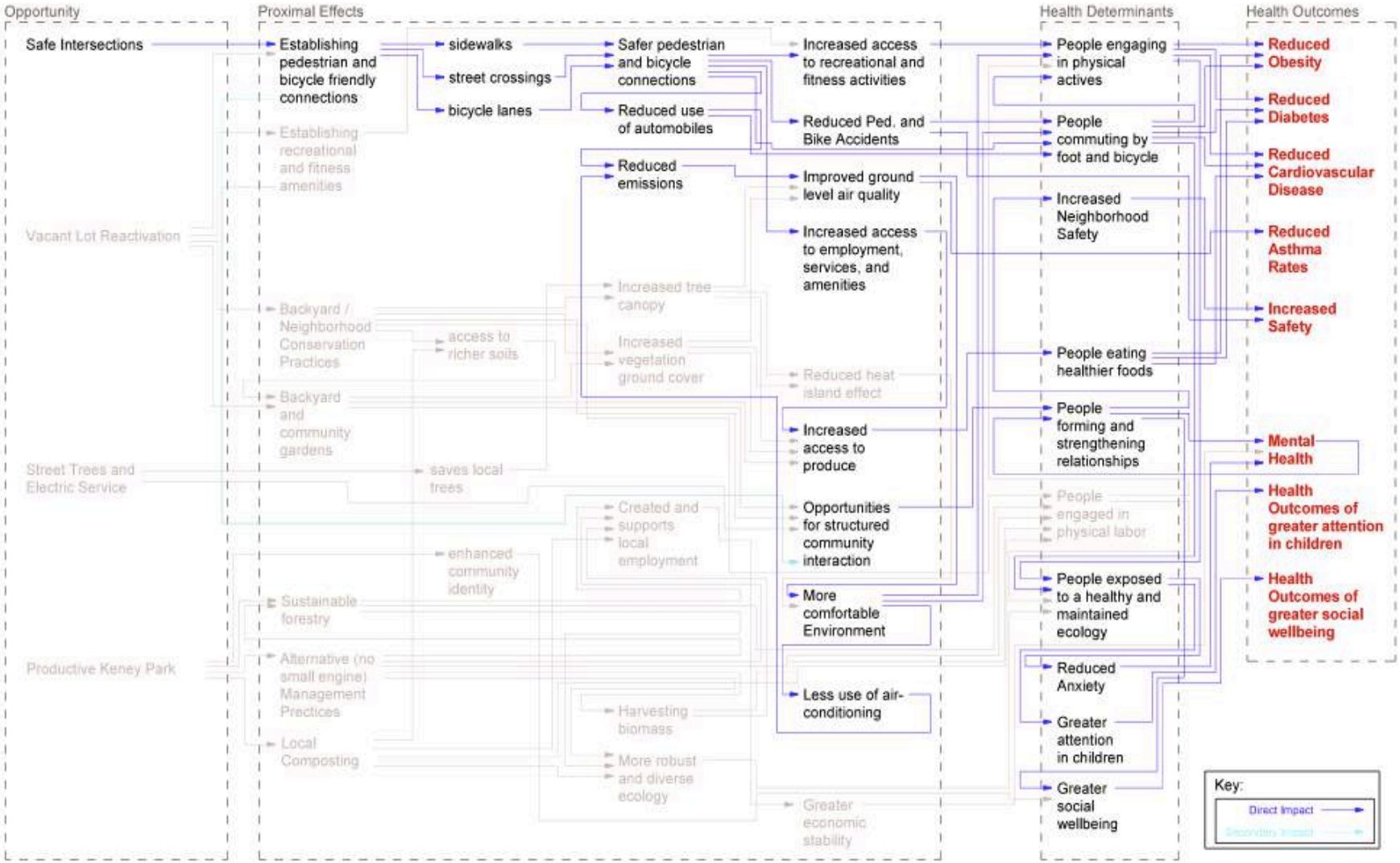

Improved "bulbed out" sidewalk at crosswalk

Bicycle related educational activity

Improved crosswalk with low planting

57 "Home." *Cure Violence Home Comments*. N.p., n.d. Web. 13 Oct. 2013.

NNSP-HIA_Pathways-Draft_2014-02-05: Safe Intersections



ASSESSNENT TABLE: SAFE INTERSECTIONS	Aspiration	Partners	Strategy/Action	Potential impact	Direction	Likelihood	Potential health outcomes	Magnitude/ Severity	Distribution (who is likely to be most affected)
	Increase traffic safety and personal safety for pedestrians and bicyclists in Northeast.	-Youth Leadership Council (YLC) -CDOT Safe Routes to School program -Schools in neighborhood -City of Hartford: Dept. of Public Works, Dept. of Development Services -Other organizations: youth focused groups, parent groups, block associations, faith based groups, etc.	Safe Routes to School: infrastructure improvements, student traffic education, and driver enforcement that improve safety for children	Change traffic speeds	Decrease	High	-Fewer injuries -Lower severity injuries	Medium	Nearby residents and businesses People who use the intersection. The number of people who live, work, or travel through these intersections is relatively small compared to the entire neighborhood. Choosing busier intersections or the most dangerous, or the ones that generate fear would increase impact. Also influenced by the degree to which the neighborhood currently experiences injuries or lack of mobility/lack of socialization due to fear of walking/bicycling.
				Change in walking trips	Increase	Med	-Access to employment, services and amenities -Decreased obesity, diabetes and cardiovascular disease	Low	
				Change in bicycling trips	Increase	Med	-Access to employment, services and amenities -Decreased obesity, diabetes and cardiovascular disease	Low	
				Change in driving trips	Decrease	Med	-Decreased obesity, diabetes and cardiovascular disease -Lower household costs	Low	

			Change in exposure to vehicle emissions	Unknown; depends on amount of driving decrease vs. extra stopping/ accelerating	Unknown, depends on treatment	-Possible decreased respiratory disease	Low for most people, maybe high for people who live next to traffic calming treatment
			Change opportunities for crime due to 'eyes on the street'	Decrease opportunities for crime		-Fewer injuries -Improved mental health	
			Collective efficacy and social capital from petition process	Increase	High	-Improved mental health -Social support	

OPPORTUNITY 2: PRODUCTIVE KENEY PARK OVERVIEW

With an area of nearly 700 acres (584 acres within Hartford, the rest in neighboring Windsor), Keney Park is one of the largest urban parks in the northeastern United States.[58] Keney Park houses vast woodlands, open meadows, trails, recreational and athletic facilities, and unique features such as a pond and pond house (used for educational activities) and equestrian amenities. With both its north and west borders defined by Keney Park, the Northeast neighborhood is defined by the park. While some of the amenities within the park draw visitors from the entire metropolitan region (such as a golf course and cricket fields), due to neighborhood perceptions about personal safety within the park, nearby residents rarely utilize this local resource. Keney Park is therefore a remarkable city park, but paradoxically does not regularly serve the immediately adjacent neighborhood.

Based on resident feedback on perceptions of safety of the park combined with residents' concerns about employment and economic activities, we have developed four strategies to promote residents' feeling of safety and a more productive Keney Park for Northeast. Based on research on park activation and productivity projects around the country and on assessing the health impacts of each, we recommend the following as viable opportunities that can impact the health, safety and prosperity of Northeast. These include:

1. Access to Keney Park: increasing safety and accessibility to Keney Park from the neighborhood;
2. Alternative Land Management: the use of livestock for vegetation control and park maintenance;
3. Composting: increasing the capacity and production at one or both of the existing composting facilities at Keney Park, and perhaps upgrading them to handle a wider range of compostable materials; and
4. Selective Harvesting: selective tree harvesting for forest products such as furniture and harvesting of woody debris for biomass.

These opportunities conceive of Keney Park as a working forest that combines productive, recreational, and educational uses. Additional opportunities can be considered within Keney Park such as agroforestry operations that support specific crops as well as tree nurseries.

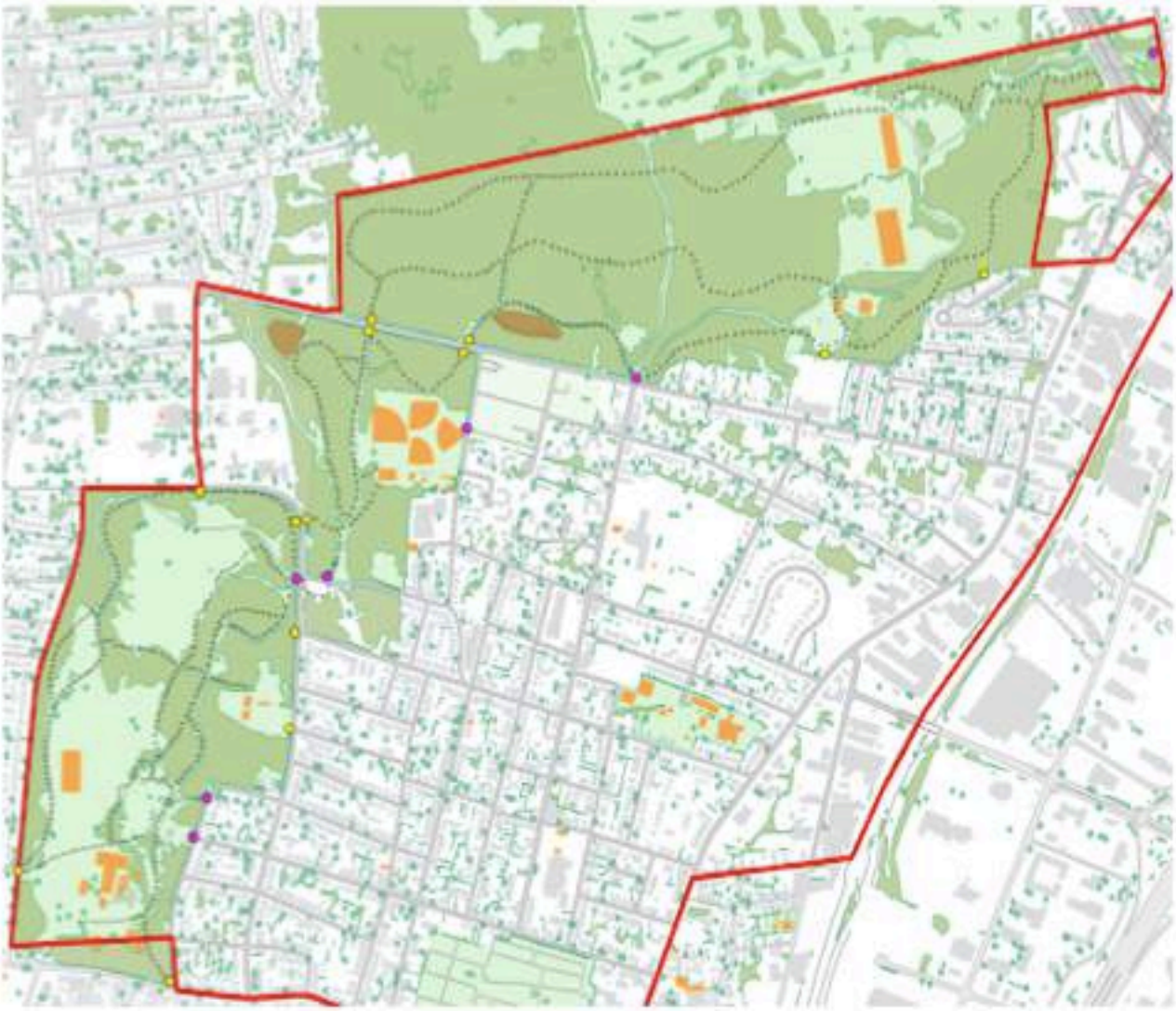
Keney Park: Perceptions and Policies

"If I felt it (Keney Park) was safe I'd go there all the time."

"In 1992 Hartford had 78 park workers… By 2007 that number had dropped by 20… and (in 2011) it stands at 29. There has been a commensurate decline in parks and recreation funding by the City from $6.14 million in FY 2001 to $4.3 (million) in FY 2006, to approximately $3 million in FY 2010. The staffing and funding shortfalls were compounded by the… 1996 (decision) to abolish the Parks and Recreation Department, placing park maintenance services under the Department of Public Works and placing recreational services under the Department of Health and Human Services"

Hartford's Parks by the municipal Green Ribbon Task Force, Spring 2011

58 Keney Park was design by the legacy firm of Frederick Law Olmsted, who was a Hartford native and is buried in Northeast.



1/4 Mile

North

Keney Park Map

This graphic map provides further detail on Keney Park within Hartford's Northeast Neighborhood (shown outlined in red). Base data is from the Geographical Information Systems (GIS) layers from the City of Hartford. Trail information is from the Friends of Keney Park. Additional information provided by The Conway School Report: *A Vision for a Vibrant Northeast Hartford.*

- Outline of the Northeast Neighborhood
- Mapped Open Space (Parks, Cemeteries, Golf Courses)
- Recreational Facilities
- New Keney Park Entrances for Consideration
- Approximate Location of Keney Park Trails
- Approximate Tree Canopy Coverage
- Composting Facilities
- Select Trees (from GIS Tree Layer)
- Existing Entrances to Keney Park

OPPORTUNITY 2A: ACCESS TO KENEY PARK

Keney Park has well marked and maintained entry points that serve automobile users. However, pedestrian entrances are typically informal and not maintained.[59] Keney Park is therefore more inviting to people traveling into it from afar by car than to neighborhood residents entering it on foot.[60] Due to this fact and community perceptions about personal safety in Keney Park, neighborhood residents report that they do not use the park regularly. As research has found that people are more likely to participate in outdoor activities when vegetation has been added to a neighborhood, improving access to an existing but underutilized outdoor asset like Keney Park is an obvious priority.[61]

Exposure to Green Space reduces stress, mortality, and improves cognitive function as well as:
- Increasing opportunities for exercise
- Improving attention deficits in children with green space walks[62]
- Reducing the effect of poverty on all-cause mortality by ~50% through access to green spaces[63]
- Reducing risks of cardiovascular disease, obesity, diabetes, and cognitive decline through increased opportunities for exercise

Two ongoing efforts will result in Keney Park being more inviting to neighborhood residents:
1. Friends of Keney Park is working on a trail improvement plan
2. The City of Hartford is engaged in opening views into the park to increase the Police Department's ability to survey the park, primarily by clearing vegetation from its perimeter

An important additional effort would formalize and maintain pedestrian entry points to Keney Park from Northeast. This opportunity was outlined and described in a report created by the Conway School of Landscape Design.[64]

The ongoing efforts spearheaded by other parties are critically important to Northeast. These efforts are complimentary to all other Keney Park related opportunities outlined above.

59 One of the most notable exceptions to this is the Pond House, and the trails that penetrate the park from its surroundings.
60 In order for urban parks to be well used, residents must have a sense of personal safety while occupying them. More often than not, a sense of personal safety can be secured through high standards of maintenance, particularly at park entry points and along paths within.
61 Stratus. (2009).
62 Taylor, A.F. and Kuo, F.E. Children With Attention Deficits Concentrate Better After Walk in the Park**,** *J. of Att. Dis. 2009; 12(5) 402-409.*
63 Mitchell, R. and Popham, F. (2008) Effect of exposure to natural environment on health inequalities: an observational population study. *The Lancet* 372(9650):pp. 1655-1660.
64 Research was done during winter term 2012. Please see http://www.csld.edu.

OPPORTUNITY 2B: ALTERNATIVE LAND MANAGEMENT

There is a long history of livestock use in vegetation control. Many 19th century parks including Keney Park housed small herds that served for meadow upkeep. More recently livestock is mainly used in rural areas to reduce the risk of wildfires by keeping brush levels in check, but less often for maintenance in urban environments. Recently, however, there is resurgence in using livestock for park and lawn care. For example, a Google office in Mountain View, California engaged a local business called California Grazing, which uses goat grazing as an alternative to conventional land management to maintain their office lawns. By temporarily importing goats to graze on the vegetation of the office lawns, the vegetation is restored while also producing cleaner air and reducing water pollution and other unsafe emissions and pollutants.[65]

Keney Park Meadow, ca. early 1900s
Source: City Park Collection, Hartford History Center, Hartford Public Library

Livestock based vegetation control adds beneficial nutrients to the soil. It also reduces the use of small engine equipment that consumes fossil fuel and contributes to air and noise pollution. Additionally, using livestock for vegetation control can offer cost savings[66] in parkland maintenance. Different animals serve different purposes: while sheep are best for lawn and meadow care, goats are more effective at clearing brush and overgrowth. Certain animals can

65 "Holistic Land Management and Brush Control - California Grazing." *Holistic Land Management and Brush Control - California Grazing*. N.p., n.d. Web. 13 Oct. 2013.
66 Goodey, J. "Volunteers flock to help cut council costs" *The Guardian.* 2009: 10/27

even be selected to target specific invasive species depending on the time of year and their dietary preference.[67]

Strategies for Implementation

There are many recent precedents for livestock use for such applications including:

1. The City of Paris, France[68], the National Park Service at Fort Wadsworth in New York,[69] O'Hare International Airport in Chicago, Illinois,[70] and Amazon[71] all use livestock routinely for vegetation control and lawn maintenance;
2. The Brighton and Hove Council of East Sussex, England has developed a training program for volunteers to spend an hour a week overseeing a herd of sheep dedicated to keeping landscaped areas properly mowed. The program provides the Council with a 93% reduction in lawn care costs.[72]

Livestock vegetation control services can be provided by a Northeast neighborhood based business (whether privately owned or collectively owned by its employees), creating local ownership and employment opportunities. In addition to the financial and environmental benefits that come with using livestock, there are educational, training, and therapeutic benefits to working with livestock. Locally, this is notably demonstrated by Ebony Horsewomen, which operates equestrian programs in Keney Park.

A Northeast neighborhood business providing livestock based vegetation care services can serve the City by providing services for Keney Park as well as other municipal parks and vegetated areas. The City could manage the overall park improvement plan or it could be an activity of The Friends of Keney Park For example, the City's current efforts to clear overgrowth at Keney Park's perimeter could possibly benefit from the use of livestock. It may also be possible to locate the business within Keney Park as it is a suitable environment for related logistics and storage facilities. Such a business could also serve nearby towns, state parks, and utility companies, as well as institutional land owners that have significant vegetated areas such as Trinity College, University of Hartford, the Hartford-Brainard Airport, the American School for the Deaf, University of Saint Joseph, University of Connecticut Greater Hartford Campus, and Hartford Hospital. Additionally, such a business could perhaps serve commercial and residential clients within both urban and suburban locations in the Capitol Region.

We will invite potential project partners to explore the establishment of a Northeast neighborhood based business that provides lawn and parkland care through livestock. Possible

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[67] It is important to note that Keney Park may house a deer population that can be impacted by livestock, and that livestock should always be managed in fenced-in areas.

68 Beardsley, E. "Let them eat grass: Paris employs sheep as eco-mowers" *NPR*. 13 Oct. 2013

69 Farming Magazine - Livestock for Rent - October, 2013 - FEATURES." *Farming Magazine - Livestock for Rent - October, 2013 - FEATURES*. N.p., n.d. Web. 13 Oct. 2013.

70 Polland, J. "Chicago's O'Hare Airport Hired A Bunch Of Goats To Do Its Landscaping." *Business Insider*. Business Insider, Inc, 14 May 2013. Web. 14 May 2013.

71 "Amazon Hires Goats for Japanese Office Landscaping - Your Community." *CBCnews*. CBC/Radio Canada, 18 Sept. 2013. Web. 01 Oct. 2014.

72 Goodey, J. "Volunteers flock to help cut council costs" *The Guardian.* 27 May 2009.

project partners include the City of Hartford, Friends of Keney Park and other parks' Friends organizations, Family Day Foundation, Ebony Horsewomen, Knox Parks Foundation, Capitol Workforce Partners and other job placement/local business/training related organizations, as well as other potential stakeholders. Community Solutions would consider providing such a business with subsidized rent for office space and vehicle/equipment storage within the upcoming Swift Factory redevelopment.

Use of Livestock for Parkland and Lawn Care

1. It is important to keep travel time to and from a work site under 2 hours each way otherwise transportation costs can outweigh the savings of using livestock. Much of the human labor involved in using livestock is the placement of temporary fencing. Therefore, it is financially unfeasible to work on sites that are smaller than ¼ acre. Fortunately there are ample potential clients with over a ¼ acre of vegetated land within much less than a 2 hour drive from Northeast Neighborhood.
2. The smallest financially feasible business would operate two herds of 30 animals each.
3. An animal will typically consume vegetation to the amount of around 25% of its own bodyweight per day. For example: a ¼ acre of dense overgrowth will be consumed by a single 30-head herd over 2 days, requiring only fencing and water. In order to mow a lawn, significantly less sheep per acre are necessary as sheep have higher body weight and lawn care requires the consumption of less vegetation (sheep are appropriate for lawn care while goats are better suited for controlling overgrowth).
4. Livestock is not productive at clearing vegetation in the winter months, and needs to be fed in order to survive. In order to reduce herd upkeep costs some of the herd is often sold to farmers or for meat before winter. Selling the livestock also provides income over the winter when vegetation maintenance revenue is low.
5. Livestock does not need much shelter. Even in a northern climate sheep and goats require little more than access to a shed for shelter from precipitation. While the shed does not need to be heated for their comfort, one must keep drinking water from freezing.
6. Eco Goats serves a wide variety of clients such as municipalities, watershed associations (as these typically do not use herbicides), forest edge properties (both commercial and residential), and high-end residential properties along the Chesapeake Bay.

Phone interview with Brian Knox of Eco Goats in Maryland - http://www.eco-goats.com

OPPORTUNITY 2C: COMPOSTING

Connecticut has effectively run out of landfill capacity and generally does not permit exporting waste to other states. Additionally, there is resistance to expanding existing waste-to-energy facilities or to the siting of new facilities. Therefore, it is only a matter of time before waste disposal costs rise significantly in Connecticut. As costs rise, municipalities typically switch to a "pay as you throw" waste collection system, as opposed to a flat rate system. Once such a transition has occurred, reducing one's waste stream will have immediate financial value. Given that approximately 33% of the State's waste is compostable, Connecticut is likely to experience a rise in composting rates. As of January 2014 a new State regulation requires commercial producers of compostable food scraps (such as hospital and university cafeterias) to contract

with a compostables collection service should one exist within a 20 mile radius. One such business already rose to the occasion and is serving areas of West Hartford.[73] While composting is a sure way to significantly reduce the waste stream, it is also produces rich soil that can be bagged and sold for a profit (one area grocery store's "sale" price for 20 quarts of compost is $15.99).

Creating business/employment opportunities around the management of locally composted food would be a proactive and sustainable step for the Northeast neighborhood because of its economic, health and environmental advantages. Composting reduces waste and builds healthy soil to support local food production and protect against the impacts of extreme weather, from droughts to heavy rainfall. Compost adds needed organic matter to soil to improve soil structure and quality, which improves plant growth and water retention, cuts chemical fertilizer use, and stems stormwater run-off and soil erosion. It can reduce water use by 10%, especially important with increased number and severity of droughts.[74] Compost also protects against climate change by sequestering carbon in soil and reducing methane emissions from landfills by cutting the amount of biodegradable materials disposed. Methane is a greenhouse gas with a global warming potential 72 times more potent than CO_2 in the short-term. A growing body of evidence demonstrates the effectiveness of compost to store carbon in soil for a wide range of soil types and land uses.[75]

In addition to composting's benefits to food production, soil erosion and climate change, it is also a successfully growing economic market within many local communities across the United States. In a just released report, "State of Composting in the US," Brenda Platt, the lead author of the report and Director of Institute for Local Self-Reliance's Composting Makes ene Project states that "applying a meager half-inch of compost to the 99 million acres of severely eroded cropland would require about 3 billion tons of compost. There is not enough compost to meet that need. No organic scrap should be wasted."[77] This demand creates an exciting opportunity for potential training and employment opportunities in Keney Park.

Composting has additional health benefits for including promoting healthy eating habits, increasing access to healthy food in areas with little access and creating community interaction and stewardship of public and private land. For example, CompostNow, a nonprofit based in North Carolina, initiates neighborhood efforts that educate local residents on how to compost their food and turn it into soil that can be used for local gardening purposes. This form of community effort promotes healthy eating habits and environmental safety that addresses the NNSP-HIAs goals for the NN residents.

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73 *That's Not Trash, It's Compostable Food Waste* by Nancy Schoeffler. The Hartford Courant, December 10, 2013: http://www.courant.com/features/home-garden/hc-ls-blue-earth-compost-20131210,0,4902652.story. Blue Earth Compost collects compostables and contracts their processing into compost with Harvest New England (formerly Green Cycle Connecticut).

74 Institute for Local Self-Reliance. http://www.ilsr.org/initiatives/composting/

75 Platt, B, Goldstein N, Coker, C. State of Composting in the U.S.: What, Why, Where & How. Institute for Local Self-Reliance. July 2014. http://www.ilsr.org/wp-content/uploads/2014/07/state-of-composting-in-us.pdf

Economic Benefits to the community where the composting facility is located

1. Typical facilities require teams of 15-20 people to staff. That translates to roughly $1 million in annual payroll.
2. Facilities bring value creating resources into the community from outside the community.
3. Having a local source for premium finished compost cuts trucking cost for those using the material locally, creating a market advantage.
4. Real Estate tax revenue from new or expanded businesses support the municipal budget.[76]

Composting Hurdles: Perceptions and Policies

There are two main hurdles preventing composting from becoming commonplace:

1. Misinformed perceptions about composting and public health, as well as odors, and
2. The lack of a statewide "pay as you throw" waste disposal pricing system.[77]

A combination of education about the financial impacts on local government and the health and job creation opportunities for communities could make composting widely accepted throughout the State in the near future.

Strategies for Implementation

Throughout the country there are successful local composting businesses, like Eco City Farms in Prince George County, Maryland that use organic waste to compost locally. Eco City Farms provides local residents with job opportunities while simultaneously fertilizing the soil of local food growers.[78] Companies such as Whole Foods, MGM, and Bank of America have initiated programs for waste reduction by increasing their food waste composting rates. Some of these companies, however, are not tapping into the revenue generation possibilities associated with material processing into marketable compost.[79]

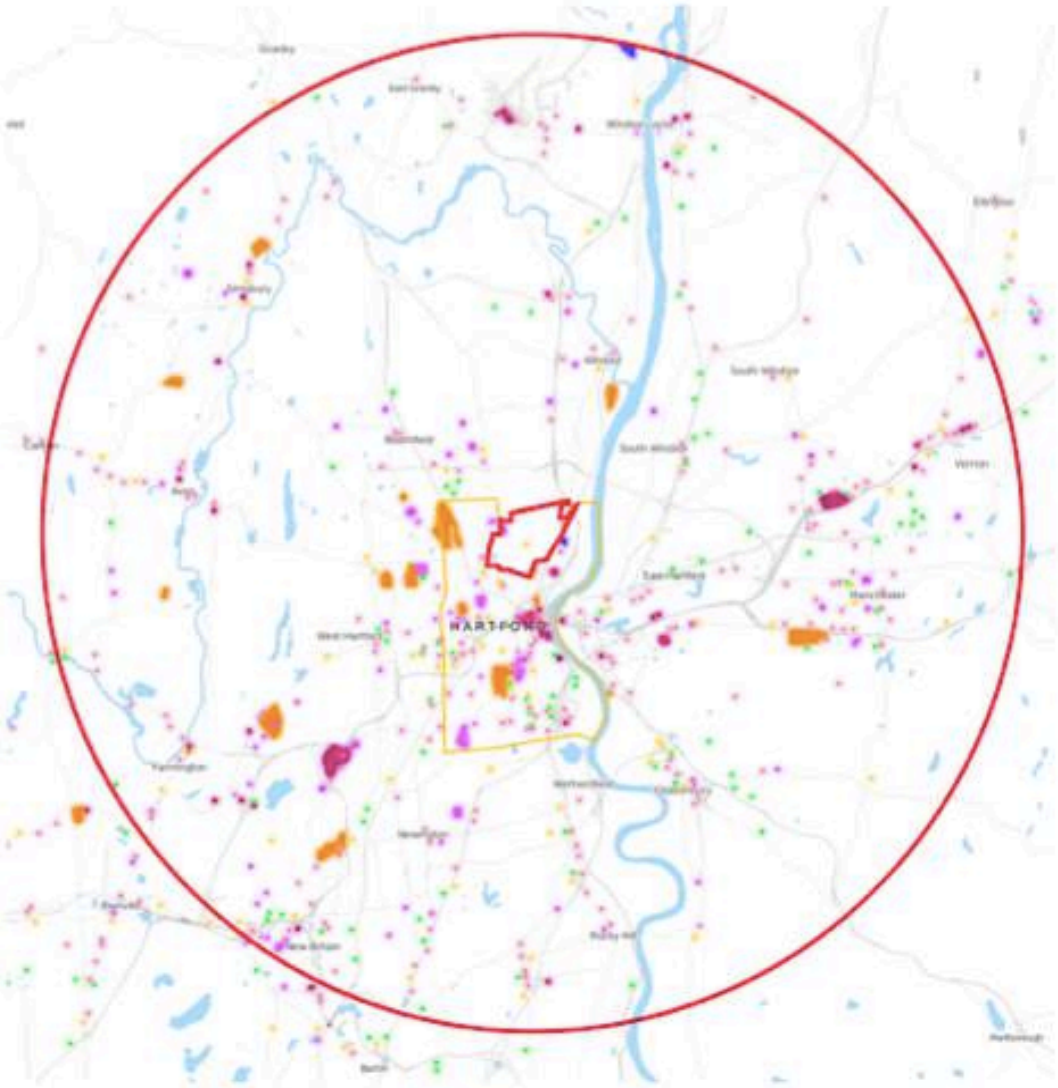
Pedal People is a human-powered (bicycle driven) cooperatively-owned business that provides waste, recycling, and compostables-hauling services.[80] Pedal People also provide delivery of farm share produce, and even moving services, all by co-owners of the business. Pedal People rates are competitive with traditional waste haulers, and the company has contracts with residences, businesses, and municipal agencies in Northampton, Massachusetts.

There are two permitted leaf-composting facilities in Keney Park, both owned and operated by the City. It seems as though neither used to its fullest capacity and that one may actually be used as staging ground for other activities. Either of these facilities could potentially be upgraded to receive compostable food scraps, and given the potential volume of waste produced within 20 miles, a financially viable local business could be established. Such a business could be privately or cooperatively owned, located in Northeast, and offer training and

76 http://www.magicsoil.com/MSREV2/economic_benefits.htm#Economic Benefits to the community
77 Based on a phone interview with the Connecticut Department of Energy and Environmental Protection Organics Recycling Specialist.
78 http://www.commondreams.org/newswire/2013/05/08-3
79 *The business case for composting from Whole Foods, MGM & BofA* by Heather Clancy. GreenBiz.com, April 20, 2012: http://www.greenbiz.com/blog/2012/04/20/whole-foods-mgm-bofa-composting
80 http://www.pedalpeople.coop

Green Collar employment opportunities to residents. The business would likely lease the land or facility from the City, and its main areas of activity could span composting and sales of compost, as well as compostables' collection.

CS will invite potential project partners to explore the establishment of a Northeast neighborhood-based business to operate a food scraps composting facility within one of the two permitted leaf composting facilities in Keney Park. Such a business would lease the land or facility from the City and in addition to creating valuable compost, could collect compostables and other items, and could sell compost both retail and wholesale. Possible project partners include the City of Hartford, Friends of Keney Park, Knox Parks Foundation, Capitol Workforce Partners and other job placement/local business/training related organizations, as well as other potential stakeholders. CS would consider providing such a business with subsidized rent for office space and vehicle/equipment storage within the upcoming Swift Factory redevelopment.



Food Residuals - Composting Resources Map

This graphic map indicates the approximate location of food residual sources within a 10 mile radius of Hartford's Northeast Neighborhood (shown center outlined in red). Data is from the Connecticut Department of Energy and Environmental Protection's Food Residuals Recycling database. Base map data courtesy of OpenStreetMap. Data is not necessarily all-inclusive, for instance public schools and small markets are not included in this map.

- Outline of the Northeast Neighborhood and 10 mile radius
- Outline of the City of Hartford
- Major Venues (airport, convention center, malls)
- Healthcare Facilities (hospitals, nursing homes)
- Educational Institutions (colleges, private schools)
- Grocery and Supermarkets
- Food and Beverage Manufacturers and Distributors
- Restaurants
- Correctional Facilities

OPPORTUNITY 2D: SELECTIVE HARVESTING

Shade trees can lead to improved air quality and reduced energy usage due to their cooling capabilities. The presence of trees in urban areas has also been linked to improved human health, reduced crime risk, and an increased feeling of community at the neighborhood level.[81]

While tree harvesting is typically not encouraged in urban parks due to the negative ecological impact associated with tree removal, Keney Park is so vast that it might sustain, or even benefit from, selective tree harvesting. Trees that have maximized their lifespan, unhealthy trees, storm-damaged trees, and trees that are at risk of disease can be considered for harvesting. Some 3.8 billion board feet of lumber can be harvested from urban trees annually nationwide, which equals 30% of the country's traditional lumber industry hardwood production.[82] Additionally there are many miles of tree-lined roadways, and several other municipal and state parks near Northeast. When combining all these sources, there is a potential for a specialty urban tree harvesting and processing business based in Northeast.

A large rural lumber operation is likely to process timber at a lower per-unit cost than a smaller urban counterpart. However, a small-scale operation can more easily capitalize on the unique attributes of each tree it processes, and can therefore more effectively focus on higher value products such as furniture, custom carpentry, and home goods.[83] A Northeast based cottage industry would benefit from focusing on specialty and high quality products. Such an operation could partner with youth and adult training and education programs, art and design partners, and focus primarily on harvesting, processing, education, and sales. The local business could also partner in a tree nursery and re-planting program to replace the trees that are harvested with preferred sustainable native species.

Urban trees selectively harvested for high-end furniture making

81 USDA Forest Service, 1994, Branas et al., 2011

82 *Utilizing Municipal Trees: Ideas from Across the Country* by Stephen M. Bratkovitch. Published by the United States Department of Agriculture Forest Service, October 2001

83 Urbanwood Project, a collaboration of Recycle Ann Arbor and the Southeast Michigan Resource Recovery Council: http://urbanwood.org

Strategies for Implementation

Private companies such as Horigan Urban Forest Products in the Chicago area[84] and Wood from the Hood in the Minneapolis-Saint Paul region[85] harvest felled trees and process them into lumber for flooring, slabs for furniture making, and small household products. Cincinnati hosts a partnership between the Parks Department and local businesses where urban felled trees are sold as lumber or product, with proceeds going to support municipal tree planting and local businesses.[86] The Hotchkiss School in Lakeville, Connecticut installed two biomass boilers that use woodchips as fuel for a high efficiency steam based heating system.[87] Based on a study by the Property and Environment Research Center, schools in Vermont saved 43% to 84% when converting their heating systems from oil, propane, electricity, or natural gas to biomass fed systems.[88]

Though a Northeast neighborhood-based business should focus on specialty high quality products, in order to put all parts of a felled tree to good use (as well as other vegetation that isn't consumed by livestock or composted), one must not ignore bi-products such as cutoffs, sawdust, and thin tree limbs. Such woody debris offers value in a composting operation, and also as biomass for heat. A small-scale neighborhood based operation could chip or pelletize it for use as a heat source.[89] Generally speaking, lower value products such as biomass require a larger quantity driven operation in order to be financially feasible. Therefore, "Made in Northeast Neighborhood" pellets might not be able to compete on the open market with large producers. However, biomass could be part of a system that provides heat locally. For example, it can be used as partial heat source for a future greenhouse on the roof of the upcoming Swift Factory redevelopment.

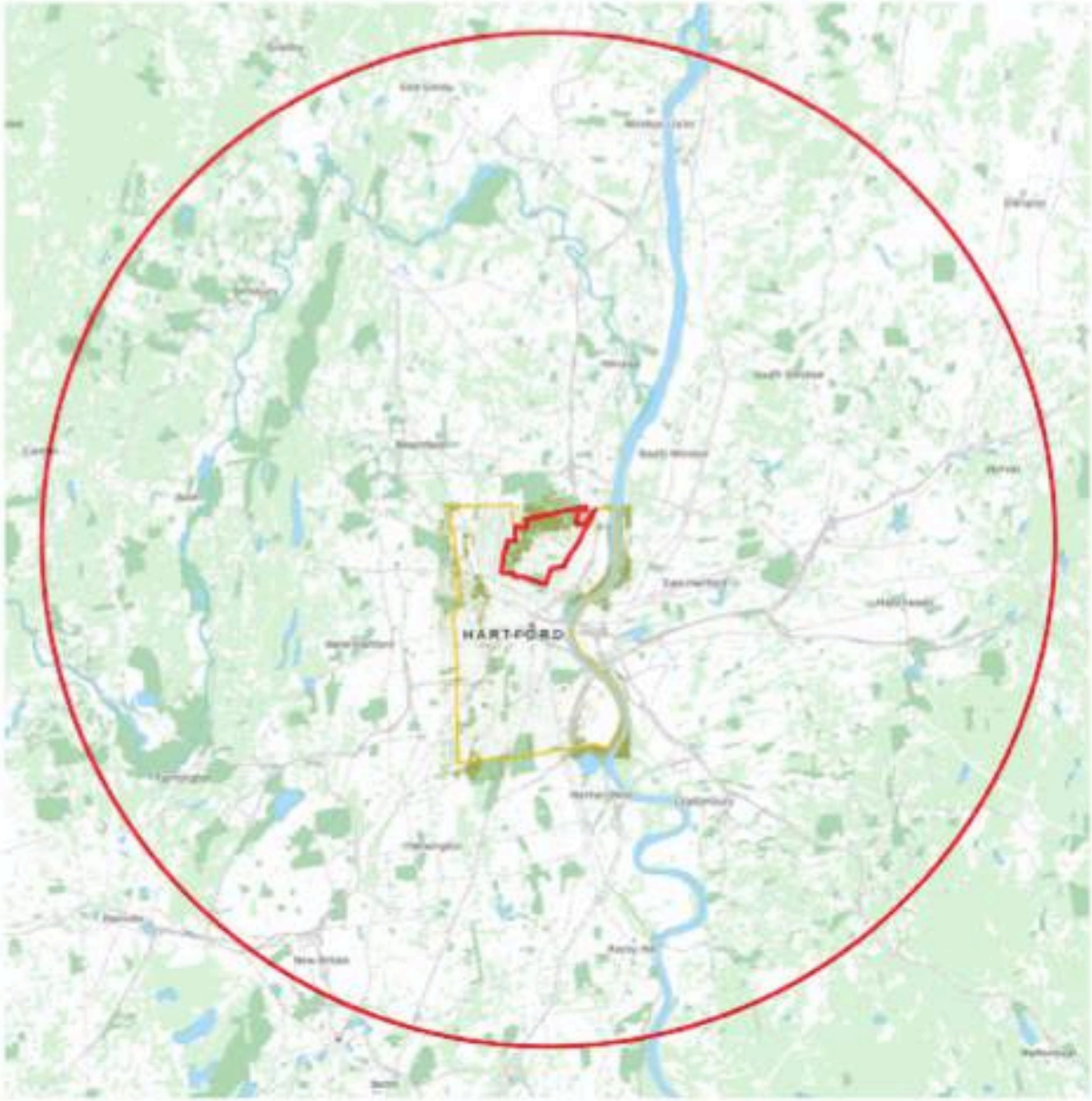
CS will invite potential project partners to explore the establishment of a Northeast Neighborhood-based business that harvests felled/damaged trees and processes them into high quality products, combining efforts in training and education, as well as wholesale and retail sales. The business could be privately or cooperatively owned by neighborhood residents, employ and train residents, and harvest felled/damaged trees from urban locations throughout the entire Capitol Region. If following the Cincinnati model, such a business could work in partnership with the City and contribute to improving its urban forests, as mentioned in Hartford's One City One Plan.[90] Possible project partners include the City of Hartford, Friends of Keney Park, utility companies, State parks, Knox Parks Foundation, Capitol

Commitment to Local Hiring

Description of our past and ongoing commitment to local and minority hiring for all of the employment opportunities listed in this plan. (Gina to add in)

84 http://horiganufp.com/index.php
85 http://woodfromthehood.com
86 http://www.urbantimberohio.com
87 http://www.hotchkiss.org/abouthotchkiss/environmental-initiatives/energy-green-building/green-energy/index.aspx
88 http://perc.org/sites/default/files/Woody%20Biomass%20CS%20Final.pdf
89 Pennsylvania State University's Pelletizing Biomass Project offers guidance to small scale pellet producers: http://extension.psu.edu/natural-resources/energy/field-crops/pelletizing-biomass
90 *One City One Plan*, Hartford's comprehensive plan (2011), mentions a funded capital investment intended to improve its urban forests. This project includes the establishment of a street tree nursery.

Workforce Partners and other job placement/local business/training related organizations, local and vocational high schools, as well as other potential stakeholders. CS would consider providing such a business with subsidized rent for office space, shop facilities, and vehicle/equipment storage within the upcoming Swift Factory redevelopment.



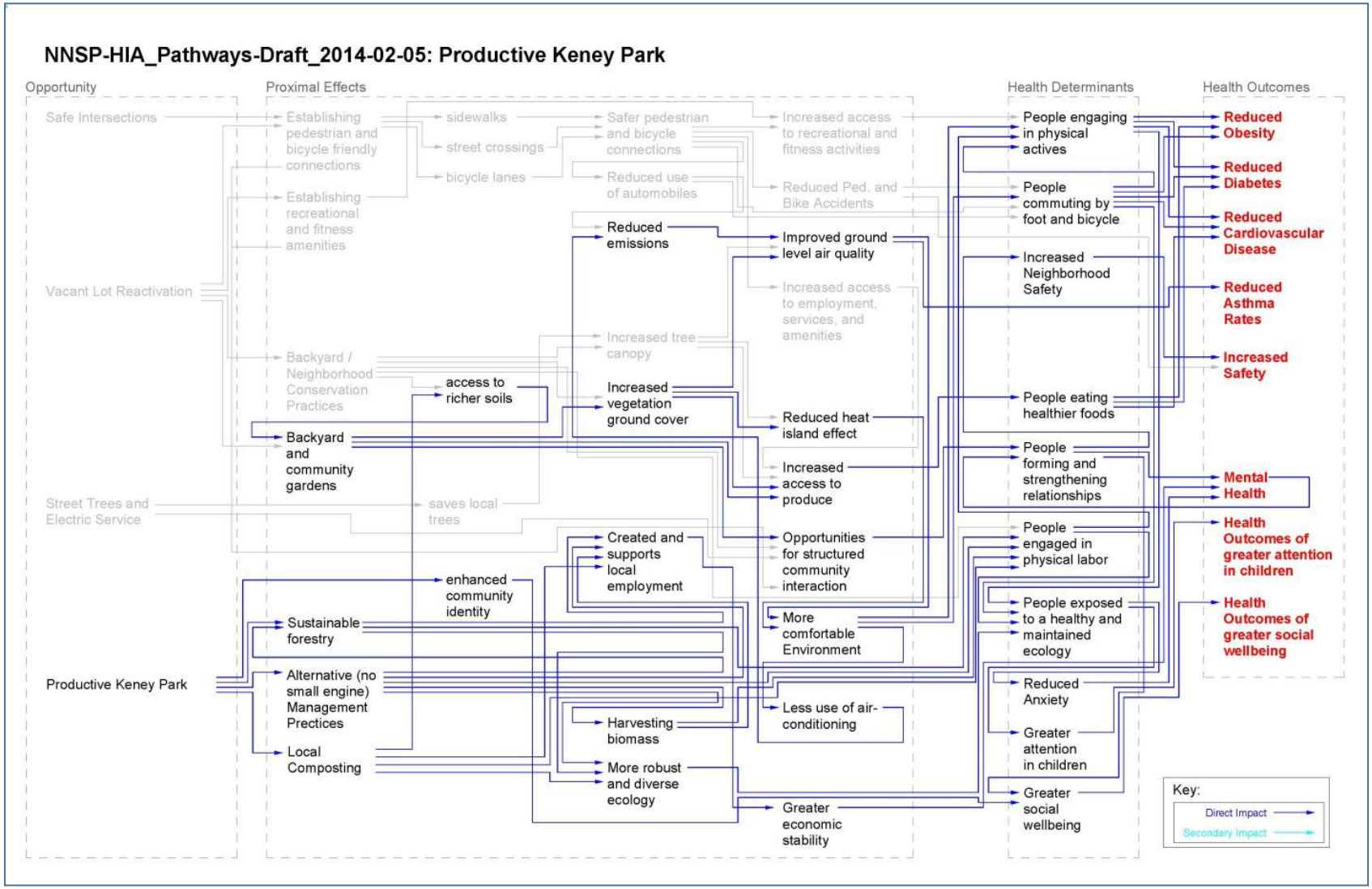
1 mile

North

Forestry Resources Map

This graphic map indicates the approximate location of parks, cemeteries, open spaces, and forested areas within a 10 mile radius of Hartford's Northeast Neighborhood (shown center outlined in red). Base data is courtesy of Open-StreetMap, the tree cover layer is from the University of Maryland Department of Geographical Sciences, detailed City data is from Geographical Information Systems layers from the City of Hartford. Data is not necessarily all-inclusive, for instance large private estates and land conservation areas could be potential resources, but are not included in this map.

- Outline of the Northeast Neighborhood and 10 mile radius
- Outline of the City of Hartford
- Approximate Tree Cover
- Parks, Cemeteries, Golf Courses and Open Spaces
- Detailed Tree Cover (City of Hartford Area Only)


NNSP-HIA_Pathways-Draft_2014-02-05: Productive Keney Park
Opportunity
Proximal Effects
Health Determinants
Health Outcomes
Safe Intersections
Establishing pedestrian and bicycle friendly connections
Establishing recreational and fitness amenities
sidewalks
street crossings
bicycle lanes
Safer pedestrian and bicycle connections
Reduced use of automobiles
Increased access to recreational and fitness activities
Reduced Ped. and Bike Accidents
Vacant Lot Reactivation
Backyard / Neighborhood Conservation Practices
Backyard and community gardens
access to richer soils
Reduced emissions
Increased tree canopy
Increased vegetation ground cover
Improved ground level air quality
Increased access to employment, services, and amenities
Reduced heat island effect
Increased access to produce
Street Trees and Electric Service
saves local trees
Created and supports local employment
Opportunities for structured community interaction
Productive Keney Park
enhanced community identity
Sustainable forestry
Alternative (no small engine) Management Prectices
Local Composting
Harvesting biomass
More robust and diverse ecology
More comfortable Environment
Less use of air-conditioning
Greater economic stability
People engaging in physical actives
People commuting by foot and bicycle
Increased Neighborhood Safety
People eating healthier foods
People forming and strengthening relationships
People engaged in physical labor
People exposed to a healthy and maintained ecology
Reduced Anxiety
Greater attention in children
Greater social wellbeing
Reduced Obesity
Reduced Diabetes
Reduced Cardiovascular Disease
Reduced Asthma Rates
Increased Safety
Mental Health
Health Outcomes of greater attention in children
Health Outcomes of greater social wellbeing
Key:
Direct Impact
Secondary Impact

Assessment Table: Productive Keney Park	Aspiration	Partners	Strategy/Action	Potential impact	Direction	Likelihood	Potential health outcomes	Magnitude/ Severity	Distribution (who is likely to be most affected)
	Alternative Management	-YLC -City of Hartford: DPW, Arborist, Dept. of Rec. -Knox Park Foundation -Friends of Keney Park -Ebony Horsewomen -Keney Park's cricket and golfing communities -Other organizations that have a stake in Keney Park -DEEP -Vocational training and workforce development organizations -Organizations that promote the establishment and development of small businesses	Use of livestock for vegetation control and park maintenance	Create and support local employment for residents of the neighborhood	Increase	Medium	Increased economic stability	Low	Nearby residents and businesses. People who use the park for athletic, leisure, and cultural activities throughout the city and county, as it is the largest park in the region.
							Improved mental health	Low	
							Decreased obesity, diabetes and cardiovascular disease	Low	
				Residents of the neighborhood exposed to a healthy and maintained ecology	Increase	Medium	Improved air quality	Moderate	
							Decreased respiratory diseases	Moderate	
							Decreased obesity, diabetes and cardiovascular disease	Moderate	
	Composting	-City of Hartford: DPW, Arborist, Dept. of Rec. -Knox Park Foundation -Friends of Keney Park -Ebony Horsewomen -Other organizations that have a stake in Keney Park -DEEP organics specialists -Vocational training and workforce development organizations	Reactivating one or both of the existing composting facilities at Keney Park, and perhaps upgrading them to handle a wider range of compostable materials.	Create and support local employment for residents of the neighborhood	Increase	Medium	Increased economic stability	Moderate	
							Improved mental health	Moderate	
							Decreased obesity, diabetes and cardiovascular disease	Moderate	

		-Organizations that promote the establishment and development of small businesses		Residents of the neighborhood and exposed to a healthy and maintained ecology	Increase	Medium	Improved air quality	Moderate	
							Decreased respiratory diseases	Moderate	
							Decreased obesity, diabetes and cardiovascular disease	Moderate	
Assessment Table: Productive Keney Park	**Selective Harvesting**	-City of Hartford: DPW, Arborist, Dept. of Rec. -Knox Park Foundation -Friends of Keney Park -Ebony Horsewomen -Other organizations that have a stake in Keney Park -DEEP organics specialists -Vocational training and workforce development organizations -Organizations that promote the establishment and development of small businesses	Selective tree harvesting and harvesting of woody debris for biomass.	Create and support local employment for residents of the neighborhood	Increase	Medium	Increased economic stability	Moderate	Nearby residents and businesses. People who use the park for athletic, leisure, and cultural activities throughout the city and county, as it is the largest park in the region.
							Improved mental health		
							Decreased obesity, diabetes and cardiovascular disease		
				Residents of the neighborhood and exposed to a healthy and maintained ecology	Increase	Medium	Decreased respiratory diseases		
							Improved air quality		
							Decreased injury, disability, and death		
							Improved mental health		

Assessment Table: Productive Keney Park	**Access to Keney Park**	-YLC -City of Hartford: DPW, Arborist, Dept. of Rec. -Knox Park Foundation -Friends of Keney Park -Ebony Horsewomen -Keney Park's cricket and golfing communities -Other organizations that have a stake in Keney Park -DEEP	Easy and safe access to Keney Park from NN will increase its use	Residents of the neighborhood and exposed to a healthy and maintained ecology	Increase	High	Decreased obesity, diabetes and cardiovascular disease Decreased injury, disability, and death	Moderate	Nearby residents and businesses. People who use the park for athletic, leisure, and cultural activities throughout the city and county, as it is the largest park in the region.
				Opportunities for structured community interaction	Increase	High	Improved mental health Decreased obesity, diabetes and cardiovascular disease	Moderate	

OPPORTUNITY 3: VACANT LOT REACTIVATION

A mural in Brownsville, Brooklyn where Community Solutions has a sister initiative, The Brownsville Partnership

Activation of vacant lots is happening in many communities throughout the nation and in Hartford; indeed in the Northeast neighborhood as well. Activating vacant lots transforms them from locations for undesirable activities, such as drug use and illegal dumping, into community amenities. Vacant lots are often associated with conditions of blight, urban decline and high vacancy rates. However, there is a movement nationwide to use low-cost temporary and permanent approaches to reactivate these properties.[91] In May 2013, residents of Flint, Michigan were challenged to reimagine their city and view abandoned parcels as opportunities rather than eyesores.[92] Additionally, research on temporary activation of underutilized land shows that it often leads to permanent use, altering the existing identity of the area and attracting public and private investment.[93]

The Hartford City Assessor's Office provided a complete list of the 107 vacant lots in Northeast and the property owners. Each lot has its own unique characteristics and adjacencies that will help determine how it should be activated:

1. A playground can be placed in a vacant lot in an area with a high concentration of young children that has no other age appropriate amenities nearby. Typically play areas are fenced in to prevent exposing children to moving vehicles. A fenced in play area can also be used by neighborhood day care service providers.
2. Rain gardens are created to help slow the flow of stormwater, reduce flooding, filter water and promote the infiltration of water into the ground.[94] A rain garden can be introduced into a vacant lot surrounded by rooftops and driveways to help reduce stormwater flows in Northeast. Vacant lots for rain gardens would be selected based on specific criteria such as adequate soil percolation rates and appropriate topography. Within 24 hours of a rain event, a properly designed rain garden should be fully drained and no standing water should be seen.
3. Similar to rain gardens, planter or tree boxes utilize soil, gravel, and plants to infiltrate

91 Hollander, J.B., Pallagst, K., Schwarz, T., and Popper, F.J. (2009)."Planning Shrinking Cities," 15.
92 "Flint Public Art Project: About." Flint Public Art Project (www.flintpublicartproject.com\about.html)
93 Oswalt, P., Overmeyer, K., and Misselwitz. P. 2009. "Patterns of the Unplanned," in *Pop Up City,* eds. Terry Schwarz and Steve Rugare. Cleveland, OH: Cleveland Urban Design Collaborative.
94 USEPA, 1999

and filter stormwater runoff from impervious surfaces. Planter boxes are typically smaller than rain gardens and are used in urban communities such as along sidewalks, roadways, and within parking lots. They are typically rectangular with concrete sides and an inlet that allows stormwater to enter the planter box.[95]

4. Introducing seating, outdoor gym facilities and a fruit tree orchard can activate a vacant lot nearby a neighborhood amenity such as a corner store, or a highly visible vacant lot along a main street within the neighborhood.
5. Clean soil and adequate sun exposure at a vacant lot make a great location for a community garden. Typically soil needs to be amended with compost to provide plants with appropriate nutrients.
6. A vacant lot whose owner is not interested in it making public, can be "seed bombed" to temporarily transform a lot into beautiful wildflower meadow (i.e. "guerilla gardening").[96]
7. A tree nursery can be established in a vacant lot, to cultivate street trees to be planted in the neighborhood and city.
8. Cultural, arts and community events can take place at any improved lot so long as sufficient space is allocated. This could include school bake sales, dance and performance, storytelling and temporary markets.
9. All of the above features can potentially be combined, depending on the attributes of any specific vacant lot.

Vacant lots can enhance education, nutrition and health, exercise, ecological regeneration and conservation in the urban core, green infrastructure, as well as encourage community building through shared experiences and activities. Our process of reactivating vacant lots will engage the aspirations and concerns of community residents and local institutions in the transformation of these key physical spaces.

Healthy Food

Repurposing vacant lots in the neighborhood in part as community gardens could increase access to healthy food, particularly fruits and vegetables. Geographic areas with limited or no access to healthy, affordable food is as described by the United States Department of Agriculture, Economics and Research Service as a "food desert."[97] Minority or low-income families are more likely than middle-income, white families to live in communities that are "food deserts." The convenience of retail food outlets, coupled with low family income and high transportation cost, can exert substantial influence over what a family eats. Families who live near a full supermarket with fair pricing are more likely to eat the daily-recommended amount of fruits and vegetables.[98]

A well-balanced, nutritious diet can reduce and prevent chronic disease such as obesity, heart

95 USEPA, 1999

[96] http://www.guerrillagardening.org/ggseedbombs.html

97 U.S. Department of Agriculture, Economic Research Service. (2009). Access to Affordable and Nutritious Food: Measuring and Understanding Food Deserts and their Consequences, Report to Congress. Report to Congress. 11, 2012, from http://www.ers.usda.gov/media/242675/ap036_1_.pdf

98 Kettel K, L., Sobush, K., Keener, D., Goodman, K., Lowry, A., Kakietek, J., & Zaro, S. (2009, July 24). Recommended Community Strategies and Measurements to Prevent Obesity in the United States.

disease, stroke, cancer and diabetes.[99] According to the World Health Organization, nutrition is a major modifiable determinant of chronic disease. An important finding in the relationship between nutrition and chronic disease is that dietary adjustments may not only influence present health, but may determine whether or not an individual will develop such diseases as cancer, cardiovascular disease and diabetes much later in life.

Social Cohesion

Capitalizing on social relationships between different groups and individuals — in particular, the sharing of knowledge, strategies, and experience — can be an important tool for fostering clusters of temporary use projects in a certain area. In addition, networking can engender new forms of cooperation; an area might develop a communal sense of identity, or members can benefit from economies of scale when negotiating permits.[100]

Strategies for Implementation

Reactivating neglected buildings and vacant lots as housing, retail, education and cultural facilities, or creating welcoming public areas is increasingly referred to as placemaking. According to American Planning Association, placemaking is the process of adding value and meaning to the public realm through community-based revitalization projects rooted in local values, history, culture, and natural environment.[101]

Placemaking: Re-Imagining Neglected Spaces

Placemaking is how we collectively and intentionally shape our public realm to maximize shared value. Rooted in community-based participation, placemaking involves the planning, design, management and programming of public spaces. More than just creating better urban design of public spaces, placemaking facilitates creative patterns of activities and connections (cultural, economic, social, ecological) that define a place and support its ongoing evolution."

Project for Public Spaces

"In creative placemaking, partners from public, private, nonprofit, and community sectors strategically shape the physical and social character of a neighborhood, town, tribe, city or region around arts and cultural activities. Creative placemaking animates public and private spaces, rejuvenates structures and streetscapes, improves local business viability and public safety, and brings diverse people together to celebrate, inspire, and be inspired."[102] Creative placemaking projects improve quality of life, encourage creative activity, create community identity and a sense of place and revitalize local economies.[103]

CS advances creative placemaking by engaging community members in the process of better using and connecting existing neighborhood resources to provide attractive and inviting spaces for public use. This includes restoring parks and open spaces and incorporating the arts, markets and entrepreneurial businesses in creating livelier, more active places. CS will invite

99 Centers for Disease Control and Prevention, 2012
100 Oswalt et al.
101 American Planning Association. https://www.planning.org/research/arts/briefingpapers.
102 Markusen, A., Gadwa, A. (2010). Creative Placemaking.
103 "Grants." *OUR TOWN: Introduction*. N.p., n.d. Web. 13 Sept. 2013.

project partners to work together to develop a comprehensive approach to reactivating vacant lots within Northeast. Potential project partners include property owners, experienced local leaders in lot reactivation and the establishment of community gardens, art, culture, and music organizations, the Family Day Foundation, the City, and other stakeholders. Conservation organizations and programs such as DEEP's Wildlife Conservation Program,[104] Connecticut Horticultural Society,[105] United States Department of Agriculture Wildlife Habitat Incentive Program,[106] and the CT chapter of the Audubon Society,[107] will be invited to participate.

CS will work with these parties to collectively clean up, reactivate, and maintain community gardens, wildflower meadows, rain gardens, outdoor gyms and play areas, and areas for arts and cultural activities throughout the neighborhood. We will prioritize vacant lots nearby Swift and Five Corners, as well as vacant lots at that can support the Pedestrian Safety opportunity. This approach will amplify the overall impact of multiple modest moves that are in close proximity to each other.

As precedent for work with community gardens, we look to the Gardens for Growing Healthy Communities located in Denver, Colorado who have collaborated to bring community gardens into vulnerable communities that have similar characteristics to the Northeast neighborhood, to enhance the built environment. Through a group effort from the University of Colorado, nonprofits and local community resident's vacant lots throughout Denver continue to be transformed into community gardens that positively impact the community. Consequently, levels of physical activity among individuals are notably increasing; social relationships are being established among community members and the risk factors that contribute to chronic diseases are reduced.[108]

Additionally, Oakland Lake Park in New York City was restored to improve its quality and safety under the Bluebelt Project that was initiated by the New York City Department of Environmental Protection (NYCDEP).[109] The park restoration was especially successful because of how stormwater was managed. To avoid erosion and to improve ecological health, rain gardens were initiated within the park to collect stormwater runoff. Rain gardens are ecologically sound and cost-effective.[110]

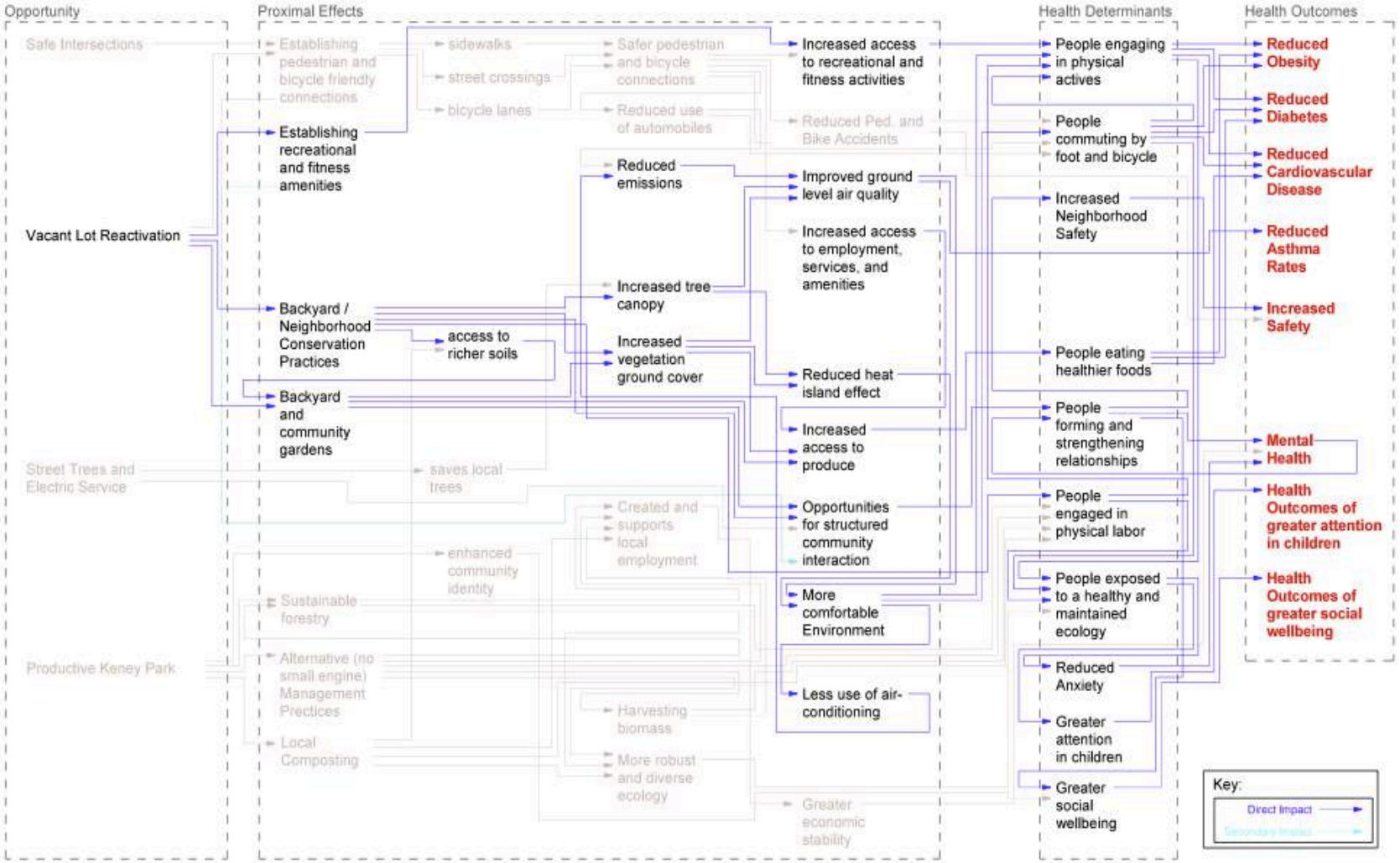
On June 11, 2014 Community Solutions hosted a free, daylong public workshop on designing and installing residential rain gardens for the purpose of minimizing stormwater flows in Northeast. During the morning participants learned about siting and sizing rain gardens. This took place at the Keney Park Pond House, where Friends of Keney Park generously hosted the workshop. During the afternoon, workshop participants installed an actual rain garden at the former Swift Family Home, now Community Solutions' Hartford office, at 60 Love Lane in Northeast Neighborhood. Boehringer Ingelheim Pharmaceuticals provided funding for the rain

104 http://www.ct.gov/deep/lib/deep/wildlife/pdf_files/nongame/swgfeb09.pdf
105 http://www.cthort.org
106 http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/whip/
107 Please consult new DPW Director who is the former chair of CT Audubon
108 http://designinghealthycommunities.org/vacant-lots-transform-community-gardens/
109 http://nywea.org/clearwaters/12-2-summer/8.pdf
110 https://njaes.rutgers.edu/pubs/fs1197/intro-to-green-infrastructure.asp

garden construction materials and plants. The University of Connecticut Nonpoint Education for Municipal Officials (NEMO) program facilitated the workshop, and indicated its interest in working in the neighborhood on additional rain garden workshops and installations.

We have also prioritized limiting unproductive activity on the streets as a goal of the NNSP-HIA. By providing educational activities, like community gardens there is an opportunity for positive community engagement that can limit unwarranted activity and turn it into structured community action. Having already established partnerships with government agencies, local and non-local nonprofit organizations, the Northeast community has connections and resources that can revitalize Hartford's vacant lots alongside strong community engagement.

NNSP-HIA_Pathways-Draft_2014-02-05: Vacant Lot Reactivation



Assessment Table: Vacant Lot Reactivation	Aspiration	Partners	Strategy/Action	Potential impact	Direction	Likelihood	Potential health outcomes	Magnitude/ Severity	Distribution (who is likely to be most affected)
	This opportunity focuses on turning vacant lots in Northeast from a liability into a resource for the community. Vacant lots can be reactivated with temporary or permanent uses, and considered in the short and long term. Reactivation can include community gardens, wildflower meadows, outdoor gyms and play areas, and can support art and culture activities.	-Vacant lot owners: specifically municipal agencies, community oriented organizations, faith based organizations, and potentially interested private parties. -Youth Leadership Council (YLC) -City of Hartford: Dept. of Public Works, Dept. of Development Services -Local and regional culture and arts organizations. -Other organizations: youth focused groups, parent groups, block associations, faith based groups, etc. -Conservation organizations and programs: DEEP's Wildlife Conservation Program, Connecticut Horticultural Society, United States Department of Agriculture Wildlife Habitat Incentive Program, the CT chapter of the Audubon Society	Community Gardens	Activity on streets	Increase	High	Decreased Injury, disability, and death	Moderate	Nearby residents and businesses. People who use the park for athletic, leisure, and cultural activities throughout the city and county, as it is the largest park in the region.
							Decreased obesity, diabetes and CVD		
							Improved mental health		
				Crime	Decrease	Moderate	Decreased obesity, diabetes and CVD		
							Decreased Injury, disability, and death		
							Improved mental health		
				Air quality	Increase	Low	Decreased respiratory diseases		
				Vegetation and ground cover					
				Opportunities for structured community interaction	Increase	High	Improved mental health		
				Access to local produce for residents	Increase	Moderate	Decreased obesity, diabetes and CVD		
Asse ssme			Wildflower Meadows	Vegetation and ground cover	Increase	Moderate	Decreased respiratory diseases		

				Air Quality					
			Outdoor Gyms and Play Areas	Physical activity for residents	Increase	High	Decreased obesity, diabetes and CVD		
				Opportunities for structured community interaction		Moderate	Improved mental health		
				Crime	Decrease	Moderate			
				Blight					
			Art and Cultural Activities	Activity on streets	Increase	High	Decreased Injury, disability, and death		
				Opportunities for structured community interaction					
				Blight	Decrease	Moderate	Decreased obesity, diabetes and CVD		
				Crime					
							Improved mental health		

OPPORTUNITY 4: STREET TREES AND ELECTRIC SERVICE

Northeast has a splendid forest of urban trees which contributes to overall human comfort, aesthetic appeal of the public realm, property values, residents' reduced energy consumption (through summer shading and winter wind protection), sequestration of atmospheric carbon, and improved air quality. Urban trees, however, have the potential of interacting with overhead electric lines causing service interruptions. Electric utility providers spend significant amounts of money on vegetation control to prevent service interruptions due to downed trees and limbs. For example, the local service provider, Connecticut Light and Power (CL&P), was slated to spend $32M on vegetation control during 2013 and is planning on spending $53M in 2014. Such vegetation control methods typically do not take into account neighborhood aesthetics, shading and human comfort and other neighborhood considerations. In the aftermath of tropical storms Irene and Sandy (2011 and 2012 respectively) and the significant and protracted electric service interruptions that ensued, Connecticut has been developing regulations and practices that aim to minimize service interruptions. One such practice gives utility companies the right and responsibility to remove existing trees that are not planted according to the "Right Tree in the Right Place" guidelines. A great majority of Northeast's street trees are older than these guidelines and may very well not comply with them. They are therefore at risk of removal. Funding is available for tree removal, but not stump grinding or replanting of replacement trees.

Most of Northeast's urban forest is located at front, side, and back yards - not along streets - and therefore primarily on private property and not on municipal land. This means that CL&P's tree removal must typically occur in coordination with private property owners. With a 20% homeownership rate[111] it may be difficult to ensure residents' participation in decisions around urban trees; decisions that impact their health and well-being, as well as their heating and cooling costs. Additionally, given that most trees are on private property, private resources are necessary for tree care. For many absentee landlords, it is typically easier and less costly to remove trees as opposed to maintaining them, especially as trees reach maturity and decline (a phase many Hartford trees are in). Due to all of these factors, including the State's updated tree removal guidelines, the existing urban forest of Northeast neighborhood is at risk of eventual decline and removal.

For the urban canopy to thrive and continue providing important services to the neighborhood, stakeholders need to assume a stewardship approach over it. Stewardship includes realizing that the urban forest is a dynamic system of decline and regrowth and that new trees need to be planted well in advance of older trees' removal. Programs such as Knox Parks Foundation's Tree Tender training and utility companies' funding for street tree planting (elsewhere in Connecticut) are key to promoting stewardship of the urban forest by neighborhood residents.

To take a proactive approach to maintaining and strengthening the urban forest in Northeast, it is important to understand its condition. Therefore, an urban tree survey and assessment is necessary as a starting point. Though the City is required to have a tree survey, it has not been done. A grassroots-led tree survey and assessment in Northeast could establish an important precedent for the City, and win the City's support. Resources such as the expertise of the City

111 http://pschousing.org/housingprofiles2013/PSC_2013HsgProfile_Hartford.pdf

Forester and the State's Urban Forestry Coordinator would be key to training community members in conducting such a survey, and then developing, alongside stakeholders, programs and efforts to strengthen the urban forest.

CS hopes to collaborate with residents, property owners, the City and City Forester, CL&P, Connecticut Department of Energy and Environmental Protection Urban Forestry Coordinator, workforce development organizations, and other parties of interest to ensure the neighborhood's street tree canopy is able to continue serving Northeast. Key steps could include:

1. Conducting a Northeast Neighborhood street tree survey and assessment,
2. Redefining ways to identify which trees should be considered for removal, and at what locations throughout the neighborhood new trees should be planted,
3. Finding ways to phase tree removal over time, and replace removed trees with new tree planting,
4. Educating and empowering residents to take a stewardship approach over their urban forest,
5. Defining practices the community can follow to aid legitimate vegetation control measures by CL&P, thus reducing CL&P costs, and
6. Highlighting opportunities for other mutual benefits such as harvesting felled trees, vocational training and job placement, and small business creation.

This opportunity focuses on protecting, maintaining, and expanding the mature and abundant street tree forest that already exists in Northeast so that residents and visitors may continue to benefit from this amenity. From a health perspective, street trees and other ecological components have many advantages. Research suggests that street trees and other green space decreases mental fatigue and improves health. Since Northeast has high rates of chronic and preventable diseases, the street trees in Northeast are aesthetically pleasing and valuable to the health of neighborhood residents.[112] There is considerable support for the significance of this opportunity in research and in practice:

1. A study focused on the value of ecological features within communities by showing the links between physical activity and longevity. More specifically, the study observed that walkable green spaces encouraged elderly residents to walk and engage in other types of physical activity, which ultimately increased their longevity.[113] The visibility of street trees invited residents to engage in physical activity that improved their health and well-being.
2. Hartford ranks in the 90th percentile nationwide in terms of concentrations of the following pollutants: carbon monoxide, nitrogen oxide, PM-2.5, PM-10, and volatile organic compounds. It is in the 70th percentile for sulfur dioxide emission, and 60th percentile for overall poor air quality.

112 http://www.palgrave-journals.com/jphp/journal/v30/nS1/full/jphp200847a.html
113 Takano, T., Nakamura, K. Watanabe, M., 2002. Urban residential environments and senior citizens' longevity in mega-city areas: the importance of walkable green space. J. Epidemiol. Commun. Health 56 (12), 913-916.

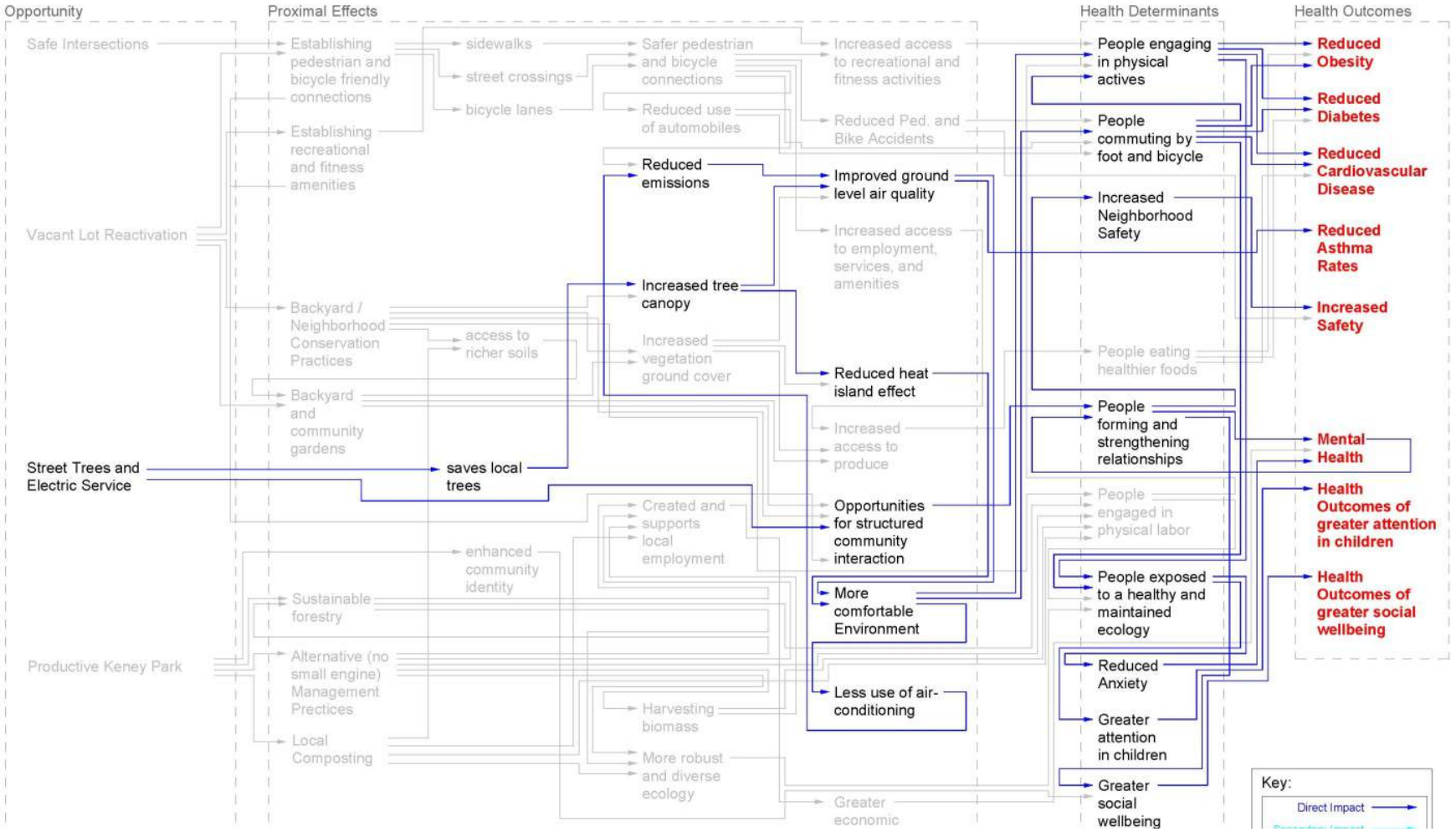
3. The College of Agriculture and Natural resources and School of Engineering at the University of Connecticut are collaborating on Stormwise. Stormwise is an initiative aiming to reduce tree related power outages while retaining the beauty and benefits of Connecticut's woodlands. Stormwise is in the process of securing funding for the development of a smartphone application that can be a great tool for conducting tree surveys.
4. The Greening Western Queens Fund was established in 2009 to facilitate environmental projects in the western areas of Queens, New York that were affected by a July 2006 power outage. The fund is supported by the community's settlement with the electric service provider Con Edison. The Greening Western Queens Fund supports a variety of projects including Green Collar job training and extensive urban tree planting and stewardship. The fund's upcoming report provides precedents for collaboration and engagement around maintain and strengthening the urban forest.

Research also supports that street trees can reduce harmful pollutants and emissions from automobiles and trucks that contribute to harmful air quality.[114] Harmful air quality contributes to rates of asthma and other preventable diseases caused by pollutants. Within communities like Northeast, where asthma rates are elevated, health is improved by finding ways to decrease pollutants and minimize hazardous factors that are threats to community health. Moreover, the Connecticut Urban Forest Council has illustrated that street streets enhance the sense of community in neighborhoods.[115]

Northeast neighborhood tree-lined streets.

114 http://www.michigan.gov/documents/dnr/22_benefits_208084_7.pdf
115 http://www.cturbanforestcouncil.org/MemoPURADocket12-01-10.pdf

NNSP-HIA_Pathways-Draft_2014-02-05: Street Trees and Electric Service



Assessment Table: Street Trees and Electric Service	Aspiration	Partners	Strategy/Action	Potential impact	Direction	Likelihood	Potential health outcomes	Magnitude/ Severity	Distribution
	This opportunity focuses on protecting, maintaining, and expanding the mature and abundant street tree forest that already exists in Northeast so that residents and visitors may continue to benefit from this amenity.	-YLC -CL&P and its mother company Northeast Utilities; both leadership and outreach personnel. -City of Hartford and several agencies and departments within including DPW and the City Arborist. -Knox Park Foundation, Friends of Keney Park, and other organizations that have a stake in NN's street trees. -DEEP air quality and conservation specialists. -Vocational training and workforce development organizations. -Residents and property owners. -Connecticut Urban Forest Council.	Tree Removal: Redefining ways to identify what trees should be considered for removal, and at what locations throughout the neighborhood new trees should be planted Finding ways to phase tree removal over time, and replace removed trees with new tree planting	More abundant and healthier urban forest	Increase	High	Decreased respiratory diseases	High	Nearby residents and businesses. People who use the park for athletic, leisure, and cultural activities throughout the city and county, as it is the largest park in the region. Utility companies and city and state agencies that spend time and money maintaining the trees as well as coordinate clean up efforts after storm when power lines, streets and public infrastructure are affected.
				Reduced power outages due to fallen trees and limbs	Decrease		Decreased Injury, disability, and death		
				Air quality	Increase		Decreased respiratory diseases		
				Electricity demand due to proper tree placement and care	Decrease	Moderate	Decreased respiratory diseases	High	
				Safety of residents and their property (e.g., cars, houses)	Increase		Improved mental health		
				Costs to public and private agencies: Provide cost savings to service provider's pruning efforts And city and state agency costs of maintaining public infrastructure and safety of residents	Decrease				
				Economic stability of residents who by decrease utility payments and creating opportunities for job training and employment.	Increase	Moderate	Improved mental health	Moderate	
Ass ess			Stewardship: Educating and	More abundant and healthier urban forest	Increase		Decreased respiratory diseases		

			empowering residents to take a stewardship approach over their urban forest and defining practices the community can follow to aid legitimate vegetation control measures by CL&P						
				Costs to public and private agencies	Decrease				
				Physical activity for residents	Increase	Moderate	Decreased Injury, disability, and death	Moderate	
				Opportunities for structured community interaction			Improved mental health		
							Decreased obesity, diabetes and CVD		
			Economic Development: Highlighting opportunities for mutual benefits such as harvesting felled trees, vocational training and job placement, and small business creation	Job creation for residents	Increase	Moderate	Improved mental health	Moderate	
				Opportunities for structured community interaction			Decreased Injury, disability, and death		
				Costs to public and private agencies	Decrease				

OTHER OPPORTUNITIES

There are several other important opportunities that can meaningfully contribute to the overall health and wellbeing in Northeast. Given these opportunities are effectively lead by other parties or do not specifically target Northeast, CS is not highlighting them as core components of this report. However, CS will support these initiatives and other health supporting opportunities led by partners.

Air Quality

This opportunity focuses on the potential of improving local air quality through the relocation of a privately owned and operated bus depot currently located on Main Street in Northeast. This opportunity is already being effectively pursued by other parties and is advancing.

Green Infrastructure

Green infrastructure includes the creation of green spaces to absorb and filter stormwater in an effort to lessen flooding run-off and massive infrastructure investments in the separation of stormwater from sewage wastewater. A Northeast-based alliance of stakeholders may be well suited to promote high-level discussions that will yield advancements in the potential for green infrastructure city wide. However, such an effort would not focus solely on Northeast and is therefore not a targeted opportunity as part of this report. The Metropolitan District Commission (MDC), an inter-municipal authority that is not a city department or agency, provides Hartford with water and sewer services. MDC is engaged in a multi-year effort to separate stormwater drains from sewer drains throughout the City; an important move towards keeping Connecticut's waterways clean. As a part of this effort the MDC could benefit from green infrastructure improvements, especially related to large open spaces such as Keney Park. It is important to note Hartford's commitment to green infrastructure. This is demonstrated in its *One City One Plan* (Hartford's comprehensive plan), through its adoption of the University of Connecticut Nonpoint Education for Municipal Officials (NEMO) best practice standards for stormwater.

Unfortunately, Hartford does not have a Parks Department and the Department of Public Works (DPW) does not have funding available for maintenance of additional vegetated areas. Due to these factors, there are organizational impediments to advancing green infrastructure initiatives citywide.

However, the opportunities highlighted in this report do promote green infrastructure opportunities in Northeast, including strategies for reducing the neighborhood's stormwater volumes.

Public Transportation Plan

Based on research conducted by the Conway School of Landscape Design, there are gaps in public transportation service throughout Northeast. The Connecticut Department of Transportation and the Capitol Region Council of Governments are initiating a planning effort that is expected to result in changes to local bus routes. This provides an opportunity for stakeholders to impact decisions and improve public transportation options in Northeast and

other underserved neighborhoods. Given such an opportunity does not focus solely on Northeast, CS and our partners will participate in this process but have not targeted this effort as part of this report.

8. CONCLUSIONS

This report outlines several distinct opportunities that can contribute to a new narrative of hope for the Northeast neighborhood. While each of these opportunities can have a positive impact on the health and prosperity of the neighborhood, if combined they can have a greater impact than their mere sum. The specific opportunities are:

1. Pedestrian and Bicyclist Safety: leveraging local and regional planning support towards securing federal investments in safer roadway and sidewalk conditions throughout the neighborhood, with the intent that actual implementation will provide employment and training opportunities for Northeast residents.

2. Access to Keney Park: improving the actual and perceived safety of using Keney Park for leisure and fitness activities will help to increase use of the park, leading to increased physical activity and ultimately decreased obesity, diabetes and cardiovascular disease among residents.

3. Alternative Management Practices at Keney Park: employing livestock to manage vegetation within Keney Park. This will provide cost savings to the City and reduce the use of fossil fuel powered machinery. Critically, this provides an opportunity to establish a new Northeast-based private business (perhaps cooperatively owned) that creates local Green Collar jobs. The business would provide livestock based parkland and lawn care services throughout the Capitol Region.

4. Composting at Keney Park: increasing productivity of the already existing composting facilities in Keney Park. This too enables the creation of another Northeast-based business (this one too potentially cooperatively owned) that provides local Green Collar jobs. The new business would potentially lease the composting facility from the City and benefit both from payment to accept pre-sorted compostables as well as the sale of highly valued compost throughout the region. It could also engage in the collection of compostables.

5. Selective Harvesting at Keney Park and through the City: taking advantage of urban felled trees' often overlooked capacity to provide lumber for high value products. Throughout Keney Park and the entire City, there is a potential for sufficient felled trees to provide for a new small scale Northeast business. The business could collect and process trees into high-end specialty products such as custom hardwood furniture. These operations could be linked to vocational training, design education, a Citywide street tree planting program, and the creation and sale of quality products.

6. Vacant Lot Reactivation: transforming vacant properties into true community assets by creating spaces for play, arts projects, markets growing food and street trees, and further greening the Northeast neighborhood. Quality public spaces will increase levels of activity throughout Northeast and promote a safer and healthier community.

7. Street Trees and Electric Service: maintaining, strengthening, and expanding the existing urban forest of Northeast so that it can continue to serve the neighborhood and provide aesthetic appeal, reduced energy consumption, improved air quality, and overall health and wellbeing benefits.

The final NNSP-HIA recommendations have been prioritized based on their likely positive impact on neighborhood health as well as other beneficial and health-connected impacts such as crime reduction and job creation. Recommendations also reflect the ability and ease with which they can be implemented under current municipal and land use restrictions. The principal focus of the plan is on the built environment and land use, and encompasses transportation, food and agriculture, environmental engineering/ecosystem services/water-resources management, possibilities for strengthening the local economy and local labor/employment opportunities. Health is the core value and guiding principle in CS' ongoing work, and the HIA provides a framework and proof points to utilize health as a driving value in the development of an improved neighborhood infrastructure and to track specific health impacts of development projects at the population level.

The NNSP-HIA will focus decision-making on boosting neighborhood health outcomes and will measure recommendations against projected positive impacts on population health in Northeast. Knowing that the neighborhood has many of the highest rates of chronic and communicable diseases as well as highest unemployment, crime and other poverty indicators, the NNSP-HIA-based recommendations on interventions that have the greatest potential impact on Northeast neighborhood residents' health and as well as opportunities for income generation and other social determinants of health.

The recommendations took into consideration the cost-effectiveness/impact of interventions; measures that would foster collaboration among community residents, government, non-profit and private sector stakeholders, and initiatives that would offer rapid, visible results.

The completed NNSP-HIA invites more effective linkages and coordination by government, private sector and community stakeholders to support the implementation of recommendations. Major physical infrastructure recommendations will be negotiated with City and State government and regional authorities and utilities. Recommendations regarding the design of services and use of privately owned properties will be implemented by CS and our network of neighborhood partners.

Some decisions may not be within the influence or control of neighborhood residents. Some decisions will have to be made at the municipal level, e.g. having to do with policing, schools, permitting, zoning and other land uses. Some decisions may involve regional utilities and healthcare systems. Some decisions will be reliant on resources and regulations controlled by the State. We will support those making commitments to participate in the implementation of recommendations, and with the help of the Rapid Results Institute, who specializes in "last mile" efforts to effect change, will select key recommendations to pursue through a series of 100 day projects (See "Commitment Sessions" Stakeholder Engagement Plan).

9.Monitoring and Evaluation

9A. Process Evaluation

Typically, HIAs inform a proposed decision. In screening, the HIA team pinpoints the individuals and/or organizations responsible for making decisions the HIA will inform. One of the biggest challenges we have faced is defining who the decision-makers for the HIA would be. This was difficult because we began with such a wide range of opportunities and because authority over the various components of the plan falls in multiple disciplines. Knowing our decision-makers would likely shift as we developed the scope our project and defined our priorities, we developed a broad and flexible engagement plan. While ultimately we understood that we were the primary decision makers, it was important to us to identify community-based decision makers who could help us both create a plan that was representative of the interests of the community and own the decisions moving forward.

In contrast to an HIA focused around a single project, such as a transportation plan, we brought together key decision-makers and stakeholders from many different areas, such as transportation, development services, public works, employment, public health and safety. We narrowed the composition of the final group of decision-makers as the scope of the HIA was refined. A complete list of those invited initially to participate in this process as well as those who are currently involved can be found in the appendices.

Steps of the HIA Process:
This HIA followed the best practices of the HIA framework based on guidance, technical assistance and support from the Health Impact Project and GHPC, both leading experts in the HIA field. Their guidance took into account the integration of the neighborhood sustainability plan and appropriate modifications. This is not the first time that an HIA has been integrated into the initial stages of the development of a plan, policy, program, or project. It is part of a trend toward assessing health impacts and using the HIA tool earlier in community planning so that health is a key consideration from the beginning and not simply an after-thought.

While this integration presented some challenges, the final NNSP-HIA demonstrates the great potential of this combined process to impact the health, safety and prosperity of the Northeast neighborhood by initiating a sustainable community development plan around the optimization of health benefits. The iterative process resulted in significant buy-in for the implementation of the completed plan from local and regional stakeholders. Integrating the NNSP with the HIA required flexibility in the applying the traditional HIA process. The Health Impact Project supported this flexible approach and helped us to think creatively about using the steps of the HIA to enrich the overall plan. This meant at times moving from one step to the next and then going back again, not necessarily in the specific order proposed by a traditional HIA.

For communities interested in combining an HIA and sustainability plan processes, we would strongly urge them to consider the additional time it takes to bring to processes together. Though pleased with the final outcome of the combined process, the integration was neither

seamless nor quick. First of all, to combine the two processes meant coordinating efforts between two host organizations (in our case, Community Solutions and Michael Singer Studio). While we work quite well together, we would have benefited from some guidance about the best ways in which to combine our efforts. Both processes (the conducting of an HIA and the building of a neighborhood sustainability plan) require pulling together many stakeholders from many different areas. What we did not necessarily anticipate was the amount of time it would take to coordinate efforts on the back end of the process. Our team had to request two no cost extensions in order to fully integrate the final products.

Going forward, a real task for HIA practitioners is to find tools and mechanisms that aid in the integration of HIA into the development of community plans, policies, programs and projects in a seamless way. We were quite conscious of the additional effort required to integrate two separate processes simultaneously. Additionally, as awareness of the importance of health continues to increase in many different sectors outside public health, it is likely that stakeholders who do not necessarily work from a health perspective will seek flexible, easy to integrate tools to understand the health impacts of their work. We can anticipate that the use of HIAs and other health-focused tools will become more commonplace as their role in improving the social determinants of health of communities becomes better understood by community development organizations like CS, planning organizations such as MSS, and others shaping the context of neighborhoods.

Screening/Scoping

This NNSP proved to be a very appropriate use of an HIA in many ways. The evidence and empirical support that an HIA gives to a neighborhood sustainability plan serves to both increase buy-in and legitimacy as well as support real health outcomes tracking in all community development projects. Because the social determinants of health are deeply connected to our physical health, this type of academic rigor is especially valuable in developing neighborhood plans for our communities. In future HIAs applied in this way, more resident-friendly and community-focused features would enhance the framework. For example, most residents indicated they did not need a workshop on what and HIA is and how it works, nor did other stakeholders place a value on this intense understanding. What all groups valued and sought more of was exposure to precedents on how development initiatives had supported the advancement of community health and job creation in other communities. For future communities interested in combining these processes, we recommend a thorough exploration and understanding of how best to present the combined process to interested parties. For our team, were we to do it again, we likely would have focused less on the explanation of the HIA as it was often times a bit abstract for the resident stakeholders we had invited to participate.

In our case the scoping step could have been smoother if we had had a more developed list of sustainability plan recommendations or more formalized plan to start with. Because our NNSP was developed alongside the HIA, it was intentionally iterative, but also made for the scoping process to be more complex. A neighborhood sustainability plan can seem theoretical to many audiences, and the HIA can also seem abstract. In future combined efforts, it may be useful to present a preliminary neighborhood sustainability plan with many more potential opportunities

identified before the HIA begins. This would have simplified the scoping process, but would have extended it as well. On the balance, we found the co-development of the NNSP in the framework of the HIA worked well.

Community Solutions was careful to involve and inform our resident and stakeholder community (Appendix A) of the progress of the NNSP-HIA during all steps of the process. Since we began the work in the fall of 2013, CS staff has attended over 75 community meetings and has hosted regular events as part of the project's scoping, assessment and implementation plan. Attendance at these meetings was generally focused on updating the community on the process, soliciting feedback, identifying organizations whose missions align with that of the NNSP-HIA and creating partnerships around pursuing projects being identified in the plan. We created an Advisory Committee (Appendix C) for the project that participated in meetings and provided guidance at decision points through online surveys (Appendix F).

Assessment

The assessment stage of our HIA was an important step for our project in two particular ways. First, it allowed us to engage in a conversation with the community and stakeholders around existing health conditions Northeast. Of particular interest to us was the realization that while the health disparities in Northeast are profound, residents and stakeholders do not focus on this reality in their day-to-day lives and have not had organized conversations about the severity of the health issues facing the neighborhood. Discussion typically focuses on more obvious manifestations of poverty: unemployment, crime, inadequate housing, and/or access to food. The opportunity to discuss health and the improvement of health as a development strategy within a neighborhood sustainability plan was a fresh and evocative way to discuss community health with residents and other stakeholders.

The assessment stage was also a way to raise awareness of neighborhood conditions with City of Hartford and State of Connecticut officials, key legislators and members of our Advisory Committee. Those regularly working in the neighborhood understand the great need of Northeast residents, and outside officials are aware of the neighborhood's persistent poverty and crime, but the assessment process made the physical conditions of the neighborhood and how they contribute to health and other disparities immediate and real to that group of stakeholders. This was very clear during the assessment as we looked at the potential impacts of the NNSP opportunities and the outcomes that they could have.

While everyone was in basic agreement that the health impacts of a physical improvement plan for a neighborhood were an important focus there were differing opinions about specific priorities. A consensus was reached in which some opportunities involving efforts already underway and led by others would be explicitly referenced and actively supported by CS and our neighborhood partners, though not prioritized in the NNSP-HIA. These are included in the summary section of this report.

An important insight emerged in our research, which was that most sustainability plans are based on precedents that are generally thought to be inclusive of health and environmental benefits but are typically not supported by academic research and/or exhaustive investigation

of health or environmental outcomes of completed interventions. We also came to find that many sustainability plans are based on the same template of recommendations. In response to this realization, we strove with our NNSP-HIA process to be particularly conscious of establishing a research base for our priority interventions and to the importance of establishing a strong foundation for the ongoing evaluation of the effects of the plan on neighborhood health, measured broadly.

To set the stage for the implementation of the plan and for tracking the health impacts, we have worked with key nonprofits in the neighborhood to form the Northeast Neighborhood Youth Leadership Council (Appendix E). CS has organized an Advisory Leadership Team comprised of area nonprofits that are identifying and connecting youth leaders to participate in the implementation of the NNSP. We have already begun this work, with an initial step being the development of a neighborhood "report card" informed by the Youth Leadership Council to help evaluate whether the interventions made subject to the recommendations in the plan indeed result in improving the health of neighborhood residents.

Developing Recommendations

The development of the NNSP was truly rewarding part of the HIA. MSS developed the initial list of opportunities through research of the neighborhood and studying similar neighborhoods to glean possibilities. Then, CS began the deep work of reaching out to residents, partners and stakeholders to formulate, discuss and prioritize the opportunities and develop a list that would be implementable, have strong health impacts and be measurable. The extensive effort made to include all facets of the community in participating in the creation of the plan will continue through the implementation and assessment phases.

Reporting and Communications

At the outset, as prescribed, CS developed a robust reporting and communications plan as part of the HIA process. We followed the plan to make sure that we reached diverse groups, got them excited about the possibilities for change in the Northeast neighborhood and mobilized them to action. Our constituent groups included: neighborhood residents, healthcare providers, nonprofits and community groups, faith-based groups, educational institutions and schools, municipal agencies and departments, policy makers and elected officials.

Our specific outreach to these groups included presentations on the work and updates on the progress of the plan at over 75 committee meetings. This is documented in the attached Community Engagement plan. In addition, we used online tools to communicate with stakeholders including: email, social media, e-newsletters and online survey tools. We completed all intended engagement events including the training, advisory council meetings and will continue to host commitment sessions once prototype projects are completed. Finally, at the conclusion of the grant period, we will disseminate the NNSP-HIA through a variety of media outlets to bring to light the recommendations of the study and garner broad public support for the implementation phase of the project.

We expect that a lasting impact of this process will be that our partners will continue to use the

NNSP-HIA to support their own work and in some cases implement the opportunities surfaced themselves. Not only have we opened up new connections between previously unconnected organizations and civic channels, but we have been able to connect residents to these stakeholder groups in a specific, action-oriented way to shape overall neighborhood development. These strengthened social networks are likely to prove a significant outcome of the HIA process.

Managing the Process

In general, the HIA was carried out according to our original plan. We had a wonderful support group in the GHPC and Health Impact Project staff who guided us through the murky parts of the process. We required a three-month, no-cost extension that extended the original end date from July 31st to October 1st, 2014 due to staff turnover. We stayed on budget for the project, and the estimated cost of our final HIA process, including the NNSP, totaled $110,000. This consisted primarily of consultant costs in developing the sustainability plan opportunities and staff time both for research supporting the health impacts of prioritized opportunities and for coordinating the Advisory Committee and stakeholder engagement process throughout the year. It also included program supplies, travel and meeting costs. Our direct costs were augmented by time and training contributed by the Health Impact Project, including GHPC's training and technical assistance throughout the project as well as the considerable time and support provided by the Health Impact Project staff, for which we are very grateful.

We were able to hire John Thomas, initially a part-time Community Planning Partner, as a full-time Community Engagement Coordinator as of January 1, 2014, about half way through the process. This enabled us to increase the stakeholder engagement capacity significantly as John was able to attend dozens of community events and meetings to speak with residents, community organizations and city and state officials about the opportunities and the potential impact of the NNSP-HIA on the Northeast neighborhood and City of Hartford. John, a life-long resident of the neighborhood, will continue to lead the community mobilization elements of the implementation of the plan.

There were staff changes at CS that impacted the process. The departure of the lead project manager for the HIA in mid-July left a gap in staff capacity just as the NNSP-HIA report was being finalized. We would also recommend that communities interested in completing HIAs ensure that the staff members assigned to the project stay on the team for the duration of the project. While turnover is sometimes inevitable (as it was in our case), the project benefits intensely from having at least one person who can spearhead the project from start to finish.

9B. Impact Evaluation

Impact of Integrating the NNSP and HIA

Typically, HIAs inform a proposed decision. In screening, the first step of HIA, the HIA team will pinpoint the individuals and/or organizations responsible for making decisions the HIA will inform. One of the biggest challenges we have faced is defining who the decision-makers for the HIA would be. This was difficult because of the wide range of opportunities that we started with authority over the various components of the plan falls in multiple disciplines. Knowing

our decision-makers would likely shift as we developed the scope our project and defined our priorities, we tried to be wide reaching and flexible in our engagement plan.

In contrast to an HIA focused around a transportation plan, for example, where the decision-makers might be key transportation officials, we have had to bring in key decision-makers and stakeholders from a wide range of sectors as we the sustainability plan aims to impact many different areas of improving the neighborhood - transportation, development services, public works, employment, public health, crime and safety. We also wanted to be as inclusive as possible to allow anyone from high-level municipal and state elected officials to community members who were interested in working on improving quality of life in Northeast to participate in the development and implementation of the NNSP-HIA.

Impact on Stakeholders

As a result of the NNSP-HIA process neighborhood residents, community organizations and city and state agencies are changing the way they are thinking about the NNSP and what potential impacts it can have. Partner organizations are already excited to see and have access to the information and data collected through this process and some organizations, such as Hartford Communities That Care and Friends of Keney Park, have stated that they will use the final product to help move their own work in the neighborhood forward. This includes the creation of a community scorecard, which will track the social determinants of health in the neighborhood and across the city. It has also helped to open up doors at the city and state levels and rally officials around finding ways to improve health and quality of life in this neighborhood and in the city and state as a whole.

Another lasting impact of this process is that the stakeholders have begun to really believe in the NNSP-HIA as a tool to help move all of our work forward. The implementation of the opportunities and the scorecard in support of key activities of their own work and in some cases actually implement the opportunities themselves. Not only have we opened up new connections between previously unconnected organizations and civic channels, but we have also been able to connect residents to these stakeholder groups in a different way, making lasting connections that we hope will support implementation of the plan and overall neighborhood development. CS believes that it is this improved social networking that is a key successful outcome of the NNSP-HIA process and we're excited to continue to use the plan and its principles in maintaining and supporting this connectedness.

9C. Monitoring

The NNSP-HIA contains recommendations for physical changes and community activities that will impact quality of life in the Northeast neighborhood. Community Solutions has led the development of the plan over the past year, has engaged stakeholders to begin implementation of some of the recommendations and will continue to act as the backbone organization, supporting partners and community residents throughout the implementation phase.

Monitoring Implementation

While the recommendations focus on specific activities and locations for opportunities to be implemented, the NNSP-HIA is meant to be a guide for residents and other stakeholders in

implementing health-supporting change in the neighborhood. Decisions on specific vacant lots to repurpose and particular activities are likely to reflect other factors, especially whether a local champion emerges. The monitoring process will therefore not focus on whether the plan is followed exactly as outlined, but will be a tool to keep health impacts at the forefront of decision making. CS will monitor the development opportunities that advance and their contribution to improved health outcomes for the neighborhood.

Measuring Impact

Many of the indicators of the social determinants of health discussed throughout this report will not change over night. Obesity, diabetes, and cardiovascular disease rates, for example, may take up to a few years to show reductions at the population level. CS will monitor the neighborhood level rates of the health indicators we have highlighted as most urgent for the health of the neighborhood over the coming years (a table of potential opportunites and measures can be found in Appendix D). These indicators are tracked by the City of Hartford Department of Health and Human Services and are publically available for us to access.

Other indicators can be tracked and show impact much faster, such as crime rates, number of residents using the park for physical and recreational facilities, pounds of produce grown in once vacant lots, community participation in implementing the opportunities (e.g., number of youth participating in the Youth Leadership Council or number of youth walking to school using a safe route to school). These indicators will be selected based on what opportunities are implemented (community garden vs. playground in a vacant lot) and will be monitored by CS and partner organizations.

10. ACKNOWLEDGMENTS

We would like to thank the Health Impact Project for their generous support enabling us to complete this project. This included not only financial support, but many hours spent discussing strategy, reading through drafts and providing expert advice and guidance at each step of the process. We are truly grateful our Program Officer, Bethany Rogerson, who was so helpful and patient with us throughout the development of the NNSP-HIA. Thank you as well to the Georgia Health Policy Center team for their assistance on the technical aspects of the HIA process and thoughtful guidance in integrating the HIA with the sustainability plan.

We would like to thank everyone who participated in this process over the past year and going forward as we implement these NNSP-HIA recommendations together community organizations, municipal and state agencies and residents. A special thank you to the Advisory Committee members who spent time at meetings and reviewing documents and updates in order to give invaluable feedback. The Advisory Committee list can be found in Appendix C.

Additional Thank Yous:

1. Brian Knox, Supervising Forester, Eco-Goats
2. Chris Donnelly, Urban Forestry Coordinator, Connecticut Department of Energy and Environmental Protection
3. David W. Dickson, National Network Coordinator, Nonpoint Education for Municipal Officials, University of Connecticut Center for Land Use Education and Research
4. Tom Worthley, Assistant Professor at the Cooperative Extension Service and the Department of Natural Resources and the Environment, University of Connecticut College of Agriculture and Natural Resources
5. John C. Volin, PhD, Professor and Head, Department of Natural Resources and the Environment, and Director of Environmental Science, University of Connecticut College of Agriculture and Natural Resources
6. Jonas V. Maciunas, Complete Streets Partnership, City of Hartford Department of Development Services
7. K. C. Alexander, Organics Recycling Specialist, Connecticut Department of Energy and Environmental Protection
8. Mark Rudnicki, PhD, Associate Professor of Forest Ecology, Department of Natural Resources and the Environment, University of Connecticut College of Agriculture and Natural Resources
9. Mary Ellen Kowalewski, AICP, Director of Policy and Planning, Capitol Region Council of Governments
10. Michael Deitz, PhD, Program Director, Nonpoint Education for Municipal Officials, University of Connecticut Center for Land Use Education and Research
11. Sharon P. Okoye, Safe Routes to School Coordinator, Connecticut Department of Transportation Strategic Planning and Projects
12. Stephen T. Hladun, Chair, Connecticut Urban Forest Council; Special Projects Coordinator, City of Bridgeport Parks and Recreation Department
13. Tanner Burgdorf, Landscape Design Consultant for Friends of Keney Park

Appendix A

Organizations Invited to Participate in the NNSP-HIA Process

4UNITY Corporation
Burgdorf/Bank of America Health Center
Benefactory
Bible Way Temple Nation
Billings Forge
Boys and Girls Club
Capital Community College
Capital Workforce Partners
Capitol Region Education Council
Catholic Charities
Center for Children's Advocacy
Central Area Health Education Center
Central Area Health Education Centers
Cigna Foundation
City of Hartford City Council President's Office
City of Hartford Department of Development Services
City of Hartford Department of Families, Children, Youth & Recreation
City of Hartford Department of Health and Human Services
City of Hartford Department of Marketing, Events & Cultural Affairs
City of Hartford Department of Public Works
City of Hartford Forrester
City of Hartford Mayor's Office
City of Hartford Opportunities Hartford Initiative
Clark Elementary School
Collective Health
Common Sense Fund
Community Health Centers Association of Connecticut
Community Health Services
Community Partners in Action
Community Renewal Team/Generations
Connecticut Academy of Science and Engineering
Connecticut Center for Social Innovation
Connecticut Children's Medical Center
Connecticut Community Care
Connecticut Council on Churches
Connecticut General Assembly
Connecticut Health Foundation
Connecticut Humanities
Connecticut Light & Power
Covenant to Care for Children
Donaghue Foundation
Ebony Horsewomen Children's Program
Family Day Foundation
Family Resource Center at Burns School
Family Resource Center at Martin Luther King School
Family Resource Center At Sand School
Foodshare
Friends of Keney Park
Global Health Initiative, Yale School of Public Health
Greater Hartford Arts Council
Hartford Areas Rally Together (HART)
Hartford Catholic Worker
Hartford Communities that Care
Hartford Community Court
Hartford Community Loan Fund
Hartford Food System
Hartford Foundation for Public Giving
Hartford Healthy Start
Hartford Housing Authority
Hartford Police Department
Hartford Public Library
Hispanic Health Council
Husky Sport
iQuilt Partnership
Journey Home
Judah House
Knox Parks Foundation
Lockedown on Christ
Martin Luther King School
Metro Hartford Information Services
NAACP
Neighborhood Revitalization Zone
North Star Center for Human Development
Northeast Neighborhood Partners, Inc.
Northeast Neighborhood Revitalization Zone
Northeast Utilities
Park Watershed
Peacebuilders
Public Allies Connecticut
ReSET Social Enterprise Trust
Saint Francis Foundation
Saint Francis Hospital and Medical Center
Salvation Army
Smith College
St. Michaels Church
State of Connecticut Department of Economic and Community Development, Office of Business and Industry Development
State of Connecticut Department of Energy and Environmental Protection, Safe Routes to School Initiative
State of Connecticut Department of Health, Family Health Section, Public Health Initiatives Branch
State of Connecticut Department of Transportation
State of Connecticut Office of Policy and Management
The Bushnell
The Connecticut Coalition for Environmental Justice
The Conway School
The North End Church of Christ/ The Urban Mission Inc.
Travelers Foundation
United Connecticut Action for Neighborhoods
United States District Attorney Office
University of Connecticut Center for Public Health & Health Policy
University of Hartford
University of Saint Joseph
Urban Oaks
Vine Street Blockwatch Group
Voices of Women of Color
YMCA of Greater Hartford

Appendix B. Resources

Organizations, Agencies, and Companies

1. Hartford Redevelopment Agency (HRA)
2. Hartford Department of Public Works (DPW)
3. (Federal) Environmental Protection Agency (EPA)
4. Connecticut Department of Energy and Environmental Protection (CT DEEP)
5. (Federal) Department of Transportation (DOT)
6. Connecticut Department of Transportation (CT DOT)
7. Connecticut Resources Recovery Authority (CRRA)
8. Capitol Region Council of Governments (CRCOG)
9. Connecticut Clean Energy Fund (CCEF)
10. Natural Resources Defense Council (NRDC)
11. The Metropolitan District Commission (MDC)
12. City of Hartford Advisory Commission on the Environment (ACOTE)
13. Connecticut Coalition for Environmental Justice (CCEJ)
14. Connecticut Energy Efficiency Fund (CEEF)
15. Clean Energy Finance and Investment Authority (CEFIA)
16. Connecticut Housing Investment Fund Inc. (CHIF)
17. Connecticut Fund for the Environment
18. Connecticut Council on Environmental Quality
19. The Hartford Foundation for Public Giving
20. Energize Connecticut
21. Pedal People: worker owned human powered waste hauling cooperative
22. The National Audubon Society
23. United States Department of Agriculture Natural Resources Conservation Service (NRCS)

Planning Efforts

1. One City, One Plan: Hartford's comprehensive plan
2. Green Ribbon Task Force: part of the city's follow up on 'One City, One Plan'
3. Regional Pedestrian and Bicycle Plan: by CRCOG
4. Rooftops to River by NRDC
5. A Vision for a Vibrant Northeast Hartford by the Conway School
6. Stormwater in Dense Urban Locations: a variety of planning documents
7. Greening America's Capitols report for Hartford's Capital Avenue: EPA sponsored
8. iQuilt: a "green seam" plan for downtown Hartford

Programs / Resources / Precedents

1. Safe Routes to School: a DOT program administered by CT DOT
2. Healthy School Environments by EPA
3. Hartford Neighborhood Environmental Project: seems to have been active between 1996 and
4. 2001, through the State's Office of Pollution Prevention (before DEEP was DEEP)
5. No Child Left Inside by CT DEEP
6. Clean Water Project by MDC

7. Gold Leaf Composting by the City of Hartford
8. Food Waste Map by CT DEEP
9. Connecticut Clean Energy Communities Program by CCEF
10. Nonpoint Education for Municipal Officials (NEMO): a collaboration of University of Connecticut's
11. Cooperative Extension System, the Connecticut Sea Grant College Program, and the Natural

Resources Management and Engineering Departments

1. East Coast Greenway
2. Philly Green
3. Natural Resource Conservation Academy at the University of Connecticut
4. Livable & Sustainable Neighborhoods Initiative: City of Hartford neighborhood stabilization program. Part of the follow up on One City, One Plan.
5. Baltimore Power in Dirt
6. Environmental Justice CARE Grants by EPA
7. eesmarts by CEEF
8. EcoLab Solutions
9. Home Energy Solutions (HES) program: by CEEF in partnership with Connecticut Light & Power, The United Illuminating Company, Yankee Gas, Connecticut Natural Gas and Southern Connecticut Gas.
10. Energy Star Tax Credit program by the EPA
11. Cool Cities by the Sierra Club
12. Connecticut Energy Education
13. SmartLiving Center by The United Illuminating Company
14. Audubon at Home by the National Audubon Society
15. Backyard Conservation by NRCS

Appendix C. Advisory Committee

1. Terri Clark, Associate Director, Connecticut Academy of Science and Engineering
2. David Pines, Associate Professor of Civil and Environmental Engineering, University of Hartford
3. Glenn E. Geathers, Neighborhood Project Manager, Economic Development Division, City of Hartford Redevelopment Agency
4. Henry Hester, Vice President, Friends of Keney Park
5. Herbert Virgo, Program Director and Event Coordinator, The Family Day Foundation; Assistant Trails Coordinator, Friends of Keney Park
6. Rex Fowler, Executive Director, Hartford Community Loan Fund
7. Brandon McGee, State Representative, 5th District, Connecticut General Assembly
8. Shawn Wooden, President, Hartford City Council
9. Michael Manson, Lieutenant, Hartford Police Department
10. Henry Hester, President, Friends of Keney Park
11. Ron Pitz, Executive Director, Knox Parks Foundation
12. Martha Page, Executive Director, Hartford Food System
13. Raul Pino, Director, Department of Health and Human Services, City of Hartford
14. Otis Pitts, Operations Manager, City of Hartford
15. Darlene Robertson-Childs, President, Northeast Neighborhood Revitalization Zone
16. Thomas Deller, Director, Department of Development Services, City of Hartford
17. Tom Phillips, Executive Director, Capital Workforce Partners
18. Jim Boucher, Vice President, Capital Workforce Partners
19. Marcus McKinney, Vice President, Community Health Equity and Health Policy, Saint Francis Hospital and Medical Center
20. Tevonne Ellis, REACH Community Partner Coach, YMCA of Greater Hartford
21. David Figliuzzi, Executive Director, Cigna Foundation
22. Deborah Russo, CD Specialist, Department of Economic and Community Development, Office of Business and Industry Development
23. Chris Corcoran, Project Manager, LAMPP Project & Healthy Homes Project, CT Children's Medical Center
24. Liz Dupont-Diehl, Career Resources, CT Center for Social Innovation

Appendix D. Evolution of Opportunities List

NNSP – HIA Opportunities List – Phase 1

Waste, Recycling, and Composting	1.	Backyard and/or neighborhood scale composting.
	2.	Re-opening the woody debris composting facility in Keney Park. Perhaps it can be upgraded to handle food scraps. It can be conceived of as operating (perhaps privately, by a locally owned cooperative) at a municipal or neighborhood level.
	3.	Locally owned and operated cooperative for neighborhood scale collection and handling of waste and recyclables: may be linked to other 'waste' related topics, can operate out of the Swift property, and could possibly expand into servicing other areas.
	4.	Programs / policies to increase recycling rates.
Vacant Lots	1.	Vacant lots as part of an emerging green infrastructure network.
	2.	Vacant lots as community gardens / victory gardens.
	3.	Vacant lots as sites for backyard conservation practices.
Air Quality, Contamination, and Allergens	4.	Relocating the First Transit bus depot from Main Street.
	5.	Improving ecosystems in Keney Park, vacant lots, front/side/back yards, and other possible locations such as streetscapes.
	6.	Healthy School Environments.
	7.	Updates and improvements to housing stock (also relates to energy conversation strategies which is not listed as a separate category).
	8.	Vegetation and Green Infrastructure's ability to improve air quality.
Safety in the Public Realm and Transportation	9.	Safe Routes to School.
	10.	Addressing pedestrian and bicyclist injury "hotspots" (perhaps also in the context of future traffic patterns throughout the neighborhood).
	11.	Affecting future realignment of bus routes through the neighborhood.
Green Infrastructure	12.	Green Infrastructure on public and private properties.
	13.	Exploring possibilities for the City of Hartford, The Metropolitan District Commission, and other parties to engage collaboratively to enable significant investments in Green Infrastructure.
	14.	Enhancing the urban canopy and other vegetated features to promote evapotranspiration as part of a Green Infrastructure strategy.

NNSP-HIA Opportunities: Phase 2

an Opportunities	Possible Partnership Opportunities	Proximal Effects/Health Determinants	Health Outcomes
afe Intersections: hysical design and complimentary activities that crease pedestrian safety and decrease crime in gh-crime, high-accident areas of the Northeast eighborhood. Examples include: 1) Establishing pedestrian and bicycle friendly connections, including sidewalks, street crossings, bicycle lanes, and greenways, and 2) Enhancing use of federal Safe Routes to School program administered in Connecticut by the State's Department of Transportation.	Schools and other child and youth related organizations, local businesses and land owners, municipal agencies, state Safe Routes to School program.	➢ Pedestrian and bicycle connections ➢ Use of automobiles ➢ Commuting by foot and bicycle ➢ Access to employment, services and amenities ➢ Activity on streets ➢ Air quality ➢ Crime in "hot spot" areas/intersections	➢ Injury, disability, and death ➢ Obesity, diabetes and cardiovascular disease ➢ Mental health ➢ Respiratory diseases
oductive Keney Park: xploring possibilities for productive uses at Keney ark. Potential examples include: ▪ Reopening the previously state permitted woody debris composting facility in Keney Park. ▪ Sustainable forestry practices, and ▪ Undergrowth and meadow management, and harvesting of biomass and fodder.	Municipal and state agencies, private operators, new businesses, local cooperatives, workforce development and other community organizations.	➢ Create and support local employment ➢ People exposed to a healthy and maintained ecology ➢ Opportunities for structured community interaction ➢ Air quality ➢ Economic stability	➢ Mental health ➢ Obesity, diabetes and cardiovascular disease ➢ Respiratory diseases ➢ Injury, disability, and death
acant Lot Reactivation: xploring possibilities for active use of city owned acant lots. This can include: ▪ Temporary uses such as cleanup and pollinator planting as well as art and education activities, and ▪ Interim uses such as community gardens, and long term investments such as playgrounds and outdoor gyms.	Municipal agencies, neighbors and neighborhood associations, local artists and art related organizations, conservation organizations, and food security / nutrition organizations.	➢ Physical activity ➢ Access to local produce ➢ Opportunities for structured community interaction ➢ Vegetation and ground cover ➢ Air quality	➢ Obesity, diabetes and cardiovascular disease ➢ Mental health ➢ Respiratory Diseases ➢ Injury, disability, and death

NNSP-HIA Opportunities: Phase 2 (Continued)

Plan Opportunities	Possible Partnership Opportunities	Proximal Effects/Health Determinants	Health Outcomes
Green Infrastructure: Exploring policy and institutional changes that will increase Green Infrastructure on public and private properties. Potential examples include: ➢ Enhancing the urban tree canopy and other vegetated features, such as greenways or groundswells to promote improved air quality and water drainage.	Municipal and state agencies, public and private utility companies, community and other local organizations.	➢ Create and support local employment ➢ Environmental sustainability ➢ Pedestrian and bicycle connections ➢ Vegetation and ground cover ➢ People exposed to a healthy and maintained ecology ➢ Air quality	➢ Respiratory Disease ➢ Health outcomes related to access to clean water ➢ Injury, disability, and death ➢ Mental Health
Relocating First Transit Bus Depot Exploring the opportunity to relocate the bus depot on Main Street in order to reduce emissions, improve ground level air quality leading to reduced asthma rates.	First Transit, City of Hartford, other business and land owners, community organizations.	➢ Emissions ➢ Future decisions about bus routes impacted ➢ Air quality ➢ Transportation options and connectivity to rest of city for residents	➢ Respiratory Disease ➢ Injury, disability, and death ➢ Mental Health ➢ Obesity, diabetes ar cardiovascular disease
Street trees and Electric Service Exploring collaboration between electricity service provider/s and the community to manage Northeast neighborhood's street trees. The Arbor Day Foundation's Tree Line USA program is a precedent for such collaboration	Partners include Connecticut Power and Light, the City of Hartford and its parks and public works departments, as well as the municipal arborist, workforce development organizations, and community groups.	➢ More abundant and healthier urban forest ➢ Provide cost savings to service provider's pruning efforts ➢ Create and support local employment and job training ➢ Reduced peak electricity demand due to proper tree placement and care ➢ Reduced power outages due to fallen trees and limbs ➢ Air quality ➢ Economic stability	➢ Respiratory Disease ➢ Injury, disability, and death ➢ Mental Health

Appendix E. Community Engagement Report

Northeast Neighborhood Sustainability Plan - Health Impact Assessment Project (NNSP-HIA)
Community Engagement Report

John J. Thomas
CS Program Assistant/Community Outreach Coordinator

Following a month-long planning period lasting from November to December of 2013 during which I was primarily employed at Manchester Community Hospital, I began working full-time at Community Solutions and fully focused on the NNSP-HIA in January 2014. Since then, I have discussed the NNSP/HIA at over 40 meetings and have conducted 2 events as part of the project's implementation plan. Attendance at these meetings were generally focused on identifying organizations whose missions align with that of the NNSP-HIA and creating partnerships in meeting these common goals.

Outreach was conducted through meetings with:

1. REACH Coalition on 1/15, 2/19,3/19 and a HIA Presentation on 4/16.
2. CT DOT/Safe Routes to School on 1/27.
3. Enfield Street Block Association on 2/21.
4. Christian Activities Council on 2/25 and 3/6.
5. Hartford Department of Public Works on 2/26.
6. African American Parade Planning Committee/Family Day (tentative partnership) on 4/8 and 4/15.
7. Hartford Rising on 4/16 and their Community Forum on 4/26.
8. Lost Rivers Movie and Discussion with Mary Pelletier and Ann-Marie Mitroff, from Yonkers Groundworks Trust on 5/3 (Gully Brook).
9. Weekly meetings with Henry Hester and the Friends of Keney Park with a HIA Presentation conducted at the Friends' March Board of Directors Meeting.
10. Bi-weekly meetings with Herb Virgo concerning the Keney Park Sustainabilty Plan and Trails Project.
11. Regular attendance at the Northeast Neighborhood NRZ (4 meetings), highlighting the NNSP/HIA and Swift Updates.

Two **Events** resulted from NNSP-HIA efforts. They include:

1. The NN Youth Leadership Campaign Kickoff on 3/25. Hartford City Council Member, Kyle Anderson was the keynote speaker. Kennard Ray, Arvia Walker and State Representative, Brandon McGee attended the event. We received commitments from 2 youth out of the 20 who attended. We also got a commitment from Arvia Walker who became a member of the Advisory Leadership Team.
2. The Keney Park Earth Day Celebration at Gully Brook, which brought Tanner Burgdorf of the Keney Park Trails Project, Tevonne Ellis of REACH and Jeff Devereux together as planning partners. The Friends of Keney and the City of Hartford Department of Children, Families and Youth served as implementation partners. The event was strategized to

reactivate the Gully Brook and Bushland sections of Keney Park and to build a better relationship with the MDC which is responsible for the culverted section of Gully Brook. The MDC found no reason to reciprocate my outreach efforts. Through partnerships with Cigna, UConn and Public Allies trails were reactivated for the Keney Park Trails Project in these sections of the park for a 1-mile run. The event was opened up through African drumming, dance and libation. The brook itself became an outdoor classroom as children took to lessons provided by CTDEEP. The Easter Egg Hunt yielded prizes of sports equipment and a Grand Prize of a Windows/Student Office enabled digital tablet. A Zumba session was conducted on site. The event was a genuine community celebration.

3. Gully Brook Stewardship efforts continued with; a 4/7 meeting at the State Capital's LOB with members of the Hartford Delegation and a Keney Partners Coalition, submission of Mary Pelletier's Gully Brook Plan to Hartford City Councilwoman, Cynthia Jennings per request and networking following the screening of 'Lost Rivers' with commitments from the University of Hartford and the Southern CT River Watershed representative.

Northeast Neighborhood Youth Leadership Council

As a part of my course at the Kennedy School and Rosanne Haggerty's vision of engaging youth through "Reverse Philanthropy", I have organized an Advisory Leadership Team that has committed to identifying youth leaders who can create an organizing resource for the Northeast Neighborhood in the form of a Youth Leadership Council. My efforts began with a celebratory kickoff on March 25th and evolved into a series of one-on-one meetings where I used narrative to gain commitments to form an Advisory Leadership team.

Follow-up **Organizing Efforts** included:

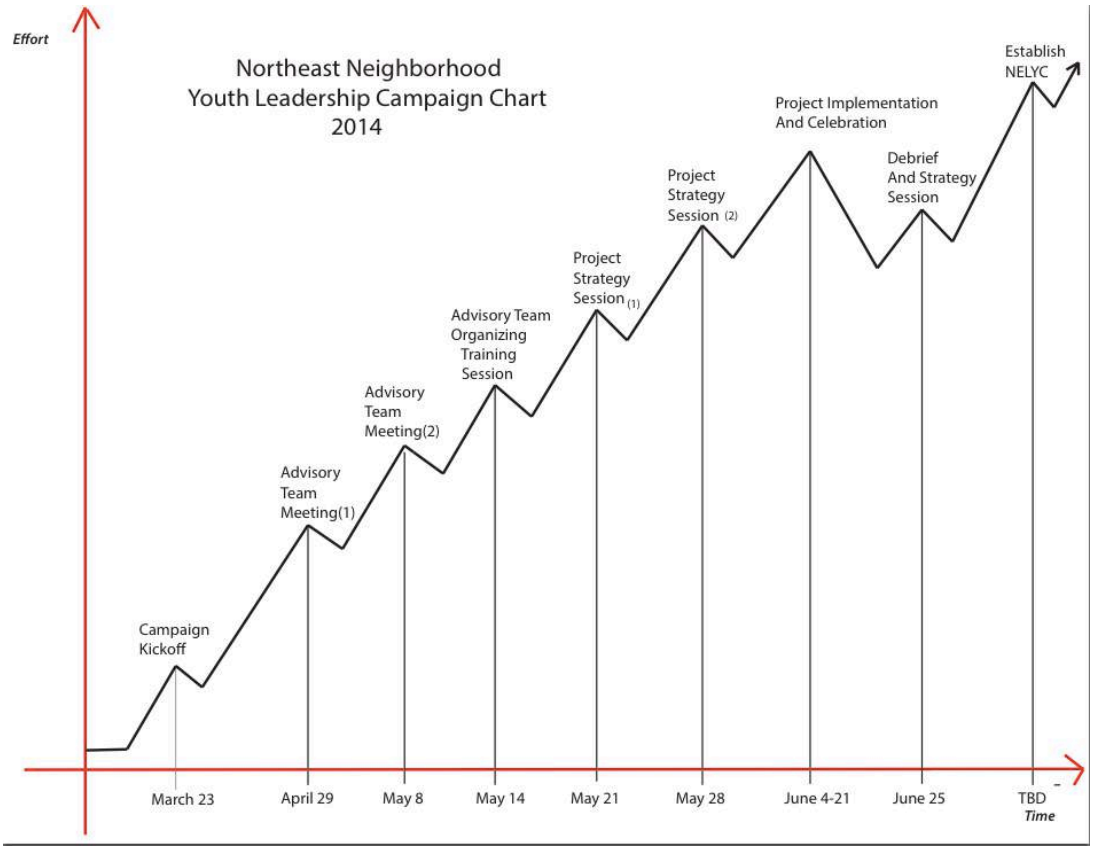
1. One on one meetings with Arvia Walker of Planned Parenthood on 4/4 and 4/9
2. A one on one meeting with Zulynette Morales on 4/8.
3. A one on one meeting with Daemond Benjamin on 4/15.
4. Immediate commitments from Chaz Gatewood of Our Piece of the Pie and Tim Fraylon of 4Unity Corp.

These one on ones have resulted in the formation of a diverse, bounded, and committed Advisory Leadership Team (ALT). I am currently working with them to get them to lose their preconceived notions about organizing and programmatic approaches to engaging the youth. Each team member is committed to bring 2 youth to the first youth-driven meeting and to support their development. We have conducted 2 ALT meetings, on 4/29 and 5/8.

Organizing Statement:

We are organizing youth in the Northeast Neighborhood to engage the planning, budgeting and implementation of NNSP/HIA projects as a scaffold to engage them in learning and applying the principles of organizing to build organization and lead campaigns for change as a youth-driven leadership council by June 25, 2014.

Theory of Change:
The identification and development of leadership amongst the youth of Hartford's Northeast Neighborhood will be implemented by engaging them in NNSP/HIA projects where they will see how their resources of energy, time, and commitment can be transformed into physical change in the community. This will provide a foundation of hope that can be used to sustain continued, youth-driven organizing efforts in the neighborhood.



Appendix B

Northeast Neighborhood Sustainability Plan – Health Impact Assessment
Stakeholder Survey

Name (Optional) _____ Email/Phone _____

1. **Please rank the opportunities in order that you think could have the greatest impact on the Northeast neighborhood:**

	1	2	3	4	5	6
Safe Intersections: Exploring physical design and complimentary activities that increase pedestrian safety and decrease crime in high-crime, high-accident areas of the Northeast neighborhood.	☐	☐	☐	☐	☐	☐
Productive Keney Park: Exploring additional possibilities for productive uses at Keney Park.	☐	☐	☐	☐	☐	☐
Vacant Lot Reactivation: Exploring possibilities for active use of city owned vacant lots.	☐	☐	☐	☐	☐	☐
Green Infrastructure: Exploring policy and institutional changes that will increase Green Infrastructure on public and private properties.	☐	☐	☐	☐	☐	☐
Relocating First Transit Bus Depot: Exploring with relevant agencies the opportunity to relocate the bus depot on Main Street.	☐	☐	☐	☐	☐	☐
Street trees and Electric Service: Exploring collaboration between electricity service provider/s and the community to manage Northeast neighborhood's street trees.	☐	☐	☐	☐	☐	☐

2. **Please rank the opportunities in order of feasibility and likelihood to be implemented in the Northeast neighborhood:**

	1	2	3	4	5	6
Safe Intersections: Exploring physical design and complimentary activities that increase pedestrian safety and decrease crime in high-crime, high-accident areas of the Northeast neighborhood.	☐	☐	☐	☐	☐	☐
Productive Keney Park: Exploring additional possibilities for productive uses at Keney Park.	☐	☐	☐	☐	☐	☐
Vacant Lot Reactivation: Exploring possibilities for active use of city owned vacant lots.	☐	☐	☐	☐	☐	☐
Green Infrastructure: Exploring policy and institutional changes that will increase Green Infrastructure on public and private properties.	☐	☐	☐	☐	☐	☐
Relocating First Transit Bus Depot: Exploring with relevant agencies the opportunity to relocate the bus depot on Main Street.	☐	☐	☐	☐	☐	☐
Street trees and Electric Service: Exploring collaboration between electricity service provider/s and the community to manage Northeast neighborhood's street trees.	☐	☐	☐	☐	☐	☐

-The Survey can also be filled out online at ***http://www.surveymonkey.com/s/8HKG53V***
-For questions or comments contact: Gina Federico Muslim at 860-881-2534 or gmuslim@cmtysolutions.org.

3. **What are the main challenges you foresee to implementation of physical design changes and activities around safe intersections?**

4. **What are the main challenges you foresee to implementation of productive uses at Keney Park (i.e. composting facility)?**

5. **What are the main challenges you foresee to implementation of vacant lot reactivation activities in the neighborhood?**

6. **What are the main challenges you foresee to implementation of green infrastructure projects or policies (i.e. greenways, groundswells) in the neighborhood?**

7. **What are the main challenges you foresee to implementation of relocating the First Transit Bus Depot?**

8. **What are the main challenges you foresee to implementation of collaboration between electricity service providers and the community to manage Northeast neighborhood's street trees?**

9. **Please add any additional comments on the opportunities presented and/or other opportunities that could be included that are not listed here.**

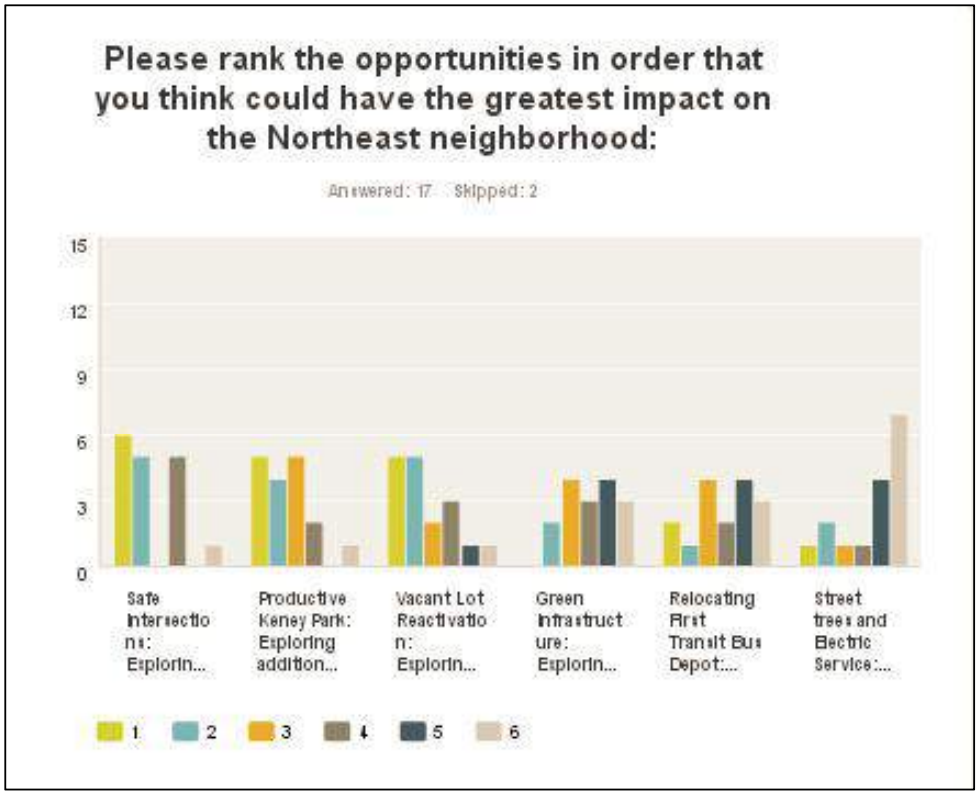
Appendix C

NNSP-HIA Scoping Survey Results

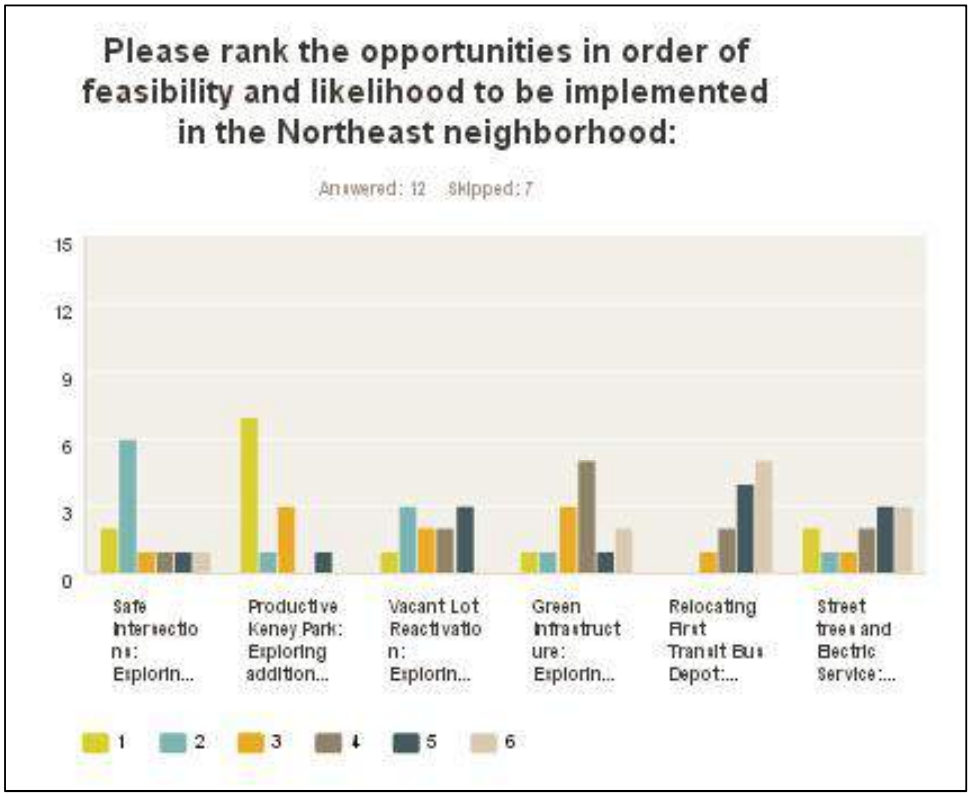
Q1. Respondent's Name/Organization (Optional)

Rex Fowler, Hartford Community Load Fund; Northeast Neighborhood Revitalization Zone
Paul Retton
Timothy Fraylon, 4UNITY Corp.
Tanner Burgdorf, Friends of Keney Park
Olusanya Bey, Public Allies
Andrew Woods, Hartford Communities That Care
Central Area Health Education Center, Inc.
Rich Brush, Collective Health
REACH Coalition, YMCA of Greater Hartford
Terri Clark, CT Academy of Science and Engineering
Chris Corcoran, LAMPP Project, CCMC
Rob Aseltine, University of Connecticut Health Center
Martha Page, Hartford Food System
City of Hartford
Mark O'Donnell, Saint Francis Hospital and Medical Center
Doris Johnson, DEEP
3 Left Blank

Q2. Please rank the opportunities in order that you think could have the greatest impact on the Northeast neighborhood:



Q3. Please rank the opportunities in order of feasibility and likelihood to be implemented in the Northeast neighborhood:



Q4. What are the main challenges you foresee to implementation of physical design changes and activities around safe intersections?

1. I liked the Singer plan to connect neighborhood assets along the east-west corridor (along Westland Street). Making that corridor more pedestrian-friendly, using traffic-calming devices, better night lighting, etc. would be critical for that to happen.
2. Fear.
3. City codes and guidelines as far as to what can actually be done.
4. My experience has revealed a sense of fear to change. From presenting to/at Board meetings even slight/minor proposals for Keney Park cause strong emotions.
5. Getting the city to actually get on board and support those entities seeking to bring about the change.
6. Merchants and landlords need to be actively engaged and committed to improvement.
7. Who do we coordinate with at the city level to modify these intersections? How do we do it in the lowest maintenance way so that it will still be present in 5-8 years (metal signs).
8. Funding, policy/local government approval.
9. Infrastructure planning, zoning development of common vision among multiple partners.
10. Money and competing priorities in public works. Public works under staffing
11. Capacity Building/Collaboration.
12. Availability of funding.

Q5. What are the main challenges you foresee to implementation of productive uses at Keney Park (i.e. composting facility)?

1. Perception of safety & making the park more accessible should be first step in my opinion; then look at more 'productive' uses.
2. It makes no sense.
3. The only challenge would be building a relationship with Friends of Keney Park Foundation and City of Hartford.
4. Same. Also, Keney Park needs tome physical changes before implementation, but hopefully all of that will be done soon.
5. Overcoming the negative stigma that is associated with Keney Park and the North End overall.
6. Funding and too little support from state and city to fund ideas. Community needs to play a role in changing perceptions of crime in park.
7. How will it be maintain and by whom? (local non-profit with existing community connections) Who will be responsible with maintaining connections with the community so people remain involved and are continuously recruited. (What organizations are already there that engage the community?)
8. Funding, policy/local government approval.
9. Collaboration/communication among the partners Permits.
10. Start-up money and resistance to a commercial use of the park.
11. Funding.
12. Agreement on the definition of "productive".

Q6. What are the main challenges you foresee to implementation of vacant lot reactivation activities in the neighborhood?

1. Ownership of lots, then maintenance of 'reactivated' lots.
2. I don't understand the question.
3. City guidelines and coding along with community involvement and opinions and concerns of community.
4. Land requirements and making sure it's appropriate for the neighborhood.
5. It appears many of the vacant lots in Hartford are "brown fields".
6. Soil safety - need land history (this issue can be resolved by covering the ground with cement, planting in raised beds or pots if unable to test), maintenance (cement floor would reduce ground maintenance).
7. Funding, policy/local government approval
8. Collaboration/communication among the partners Agreement on vision/mission for uses of the properties permitting/zoning.
9. Will and planning.
10. Development or previous plans by others.
11. Availability of funding.

Q7. What are the main challenges you foresee to implementation of green infrastructure projects or policies (i.e. greenways, groundswells) in the neighborhood?

1. Not sure what this means/is...
2. There is a lack of knowledge of the process.
3. Don't see any challenges.
4. Lack of education on what green infrastructure even is.
5. I don't really see any challenges, but I am sure finances and cooperation from city agencies and developers.
6. What will the site look like in 5 years?
7. Policy/local government approval, buy in by local residents and individual/institutional property owners.
8. Community engagement.

9. Start-up dollars and ability to maintain what is accomplished.
10. Funding - outreach to the neighborhoods.
11. Agreement on priorities and possibilities.

Q8. What are the main challenges you foresee to implementation of relocating the First Transit Bus Depot?

1. Finding a place they want to go (think they have an existing lease).
2. It does not sound like a possibility.
3. Building relationship with management of First Transit to see if relocation is possible.
4. Land requirements? Not really educated on this topic.
5. Finding a new neighborhood or location that will be receptive to a bus depot being placed there.
6. Cost and alternative site for bus depot.
7. Not sure.
8. Support by transit authority and local residents/commuters, plus funding for physical changes and communications.
9. Communication with users and development of ground-up support
10. It's a massive undertaking...$$$$
11. Collaboration.
12. Existing policy.

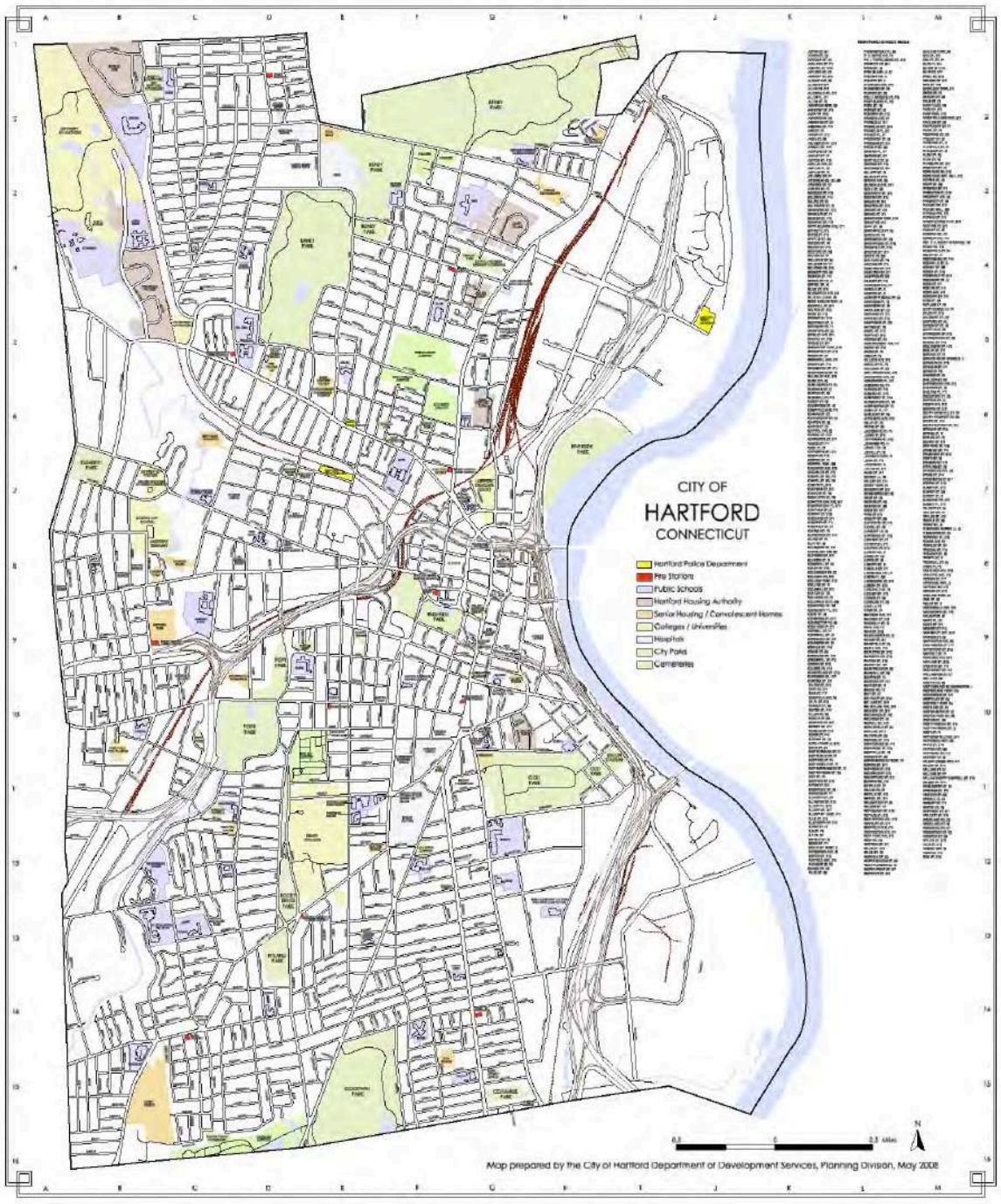
Q9. What are the main challenges you foresee to implementation of collaboration between electricity service providers and the community to manage Northeast neighborhood's street trees?

1. ??
2. Do not have stakeholders.
3. Don't see any challenges.
4. Building up the importance of this sort of project.
5. Collaboration is a quality that is in dire need in Hartford, is often a challenge to getting anything done.
6. Not sure what this might look like and/or other opportunities that could be included that are not listed here.
7. Unsure of assets, partners that could make this happen.
8. If supported by utility this should have low barriers to implementing
9. Current trim trimming practices by the utility companies following the major Connecticut storms and power outages
10. Prioritizing of the providers
11. Unknown.

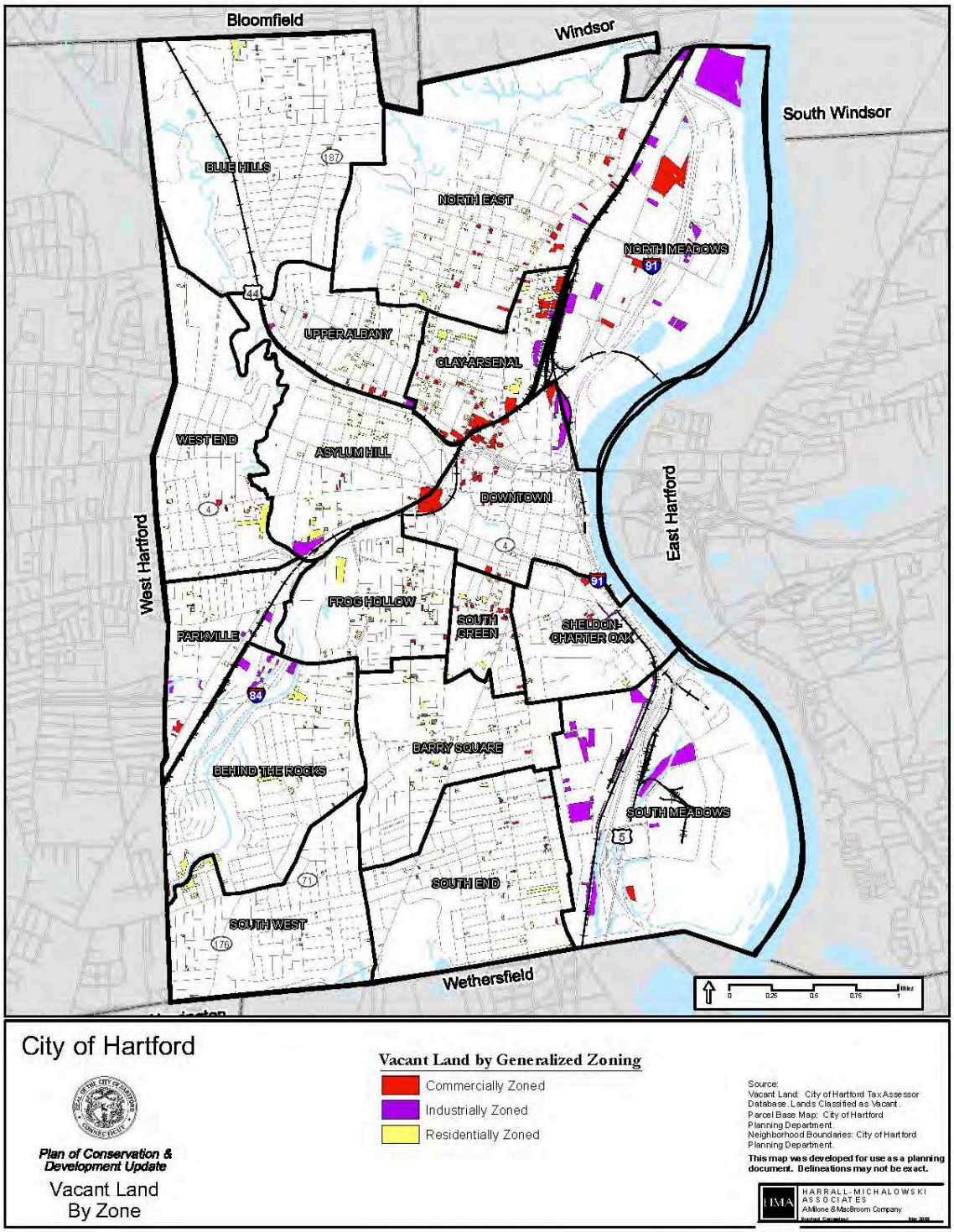
Q10. Please add any additional comments on the opportunities presented and/or other opportunities that could be included that are not listed here.

1. Don't believe the survey is taking in the total community.
2. With the project of vacant lot reactivation there should also be a concern to look at vacant buildings as well as to how they can be of use to community. If buildings can't be of use, tear them down.
3. None.
4. Job creation should be a key decision factor.
5. I don't know the physical space in this neighborhood well enough to offer much in the way of prioritization and assessment of feasibility.
6. Continued efforts in implementation and building partnerships to move forward.

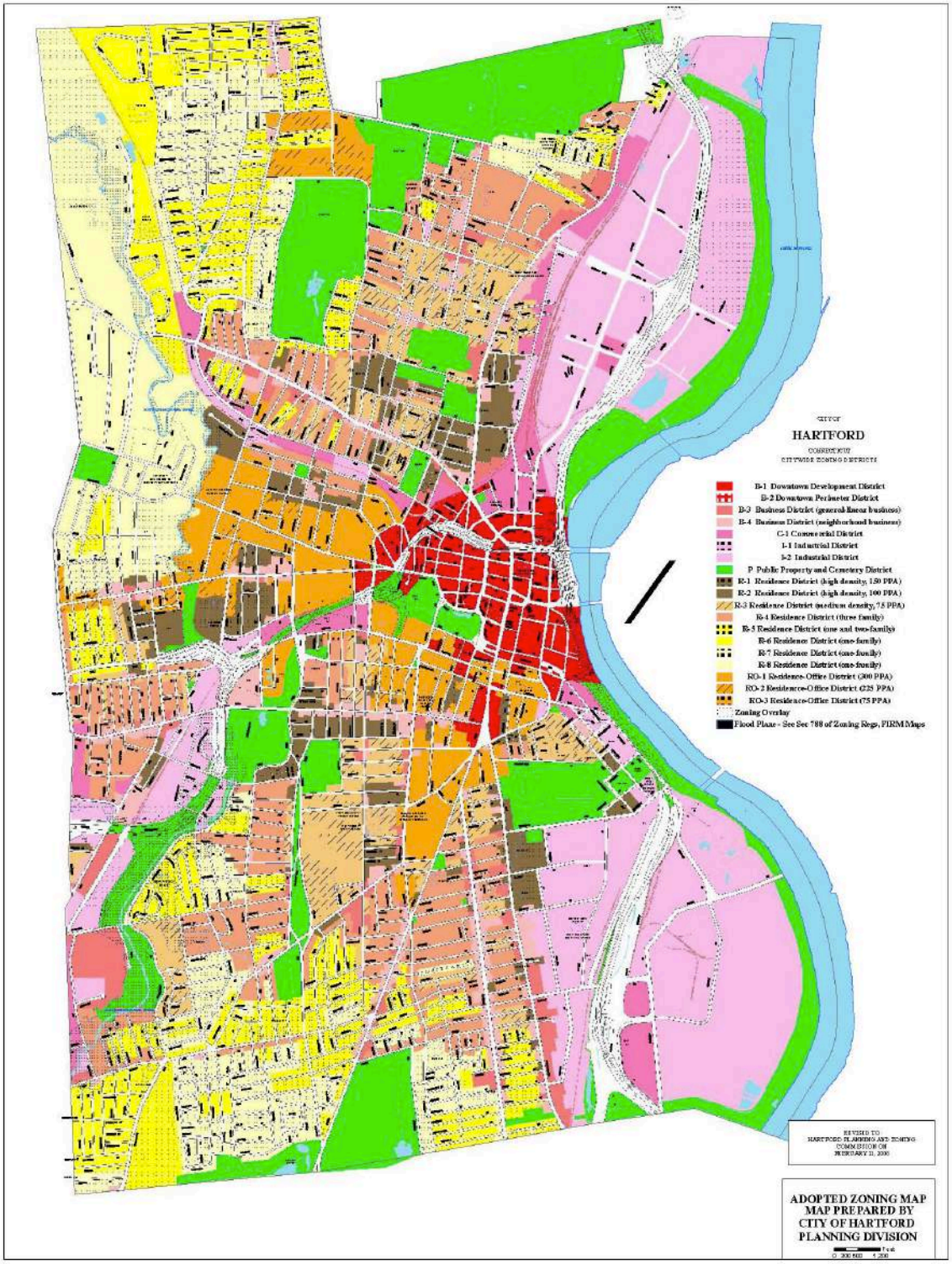
Appendix G. City of Hartford Map



Appendix H. City of Hartford Vacant Land by Zone Map



Appendix I. City of Hartford Zoning Districts Map



Appendix J. Placemaking Assets and Activities Database

ASSET TYPE	NAME
Artist(s) or creative individual	Patricia Johnson – Connecticut Artists Initiative
Artist(s) or creative individual	Praise Dance troupes / interpretive dance / drill teams affiliated with churches
Artist(s) or creative individual	St. Michaels Gospel Choir
Artist(s) or creative individual	Anne Cubberly - Puppet Maker, Community Artist, CT Artist in Residence
Artist(s) or creative individual	Sharon Gowen, Greater Hartford Quilt Guild
Artist(s) or creative individual	Rabbi Donna Berman, Charter Oak Cultural Center
Artist(s) or creative individual	Frances Curran, Hartford Artisans Weaving Center
Artist(s) or creative individual	Bradley E. Clift, photojournalist (Inside Out: Northeast Hartford)
Artist(s) or creative individual	Riley Johnson, Sr. and Jr., Johnson Studio of Photography and RJ3Photo (amazing collection of portraits, wedding photography)
Artist(s) or creative individual	Dan Blow, Japanalia Eiko (fashion designer and jazz impresario)
Artist(s) or creative individual	Dave Marcoux, HTFD Denim Company
Artist(s) or creative individual	Sue Diehl, University of Hartford (nursing)
Artist(s) or creative individual	Michael Singer Studio
Event	Inside/Out: Northeast Hartford (as part of iQuilt's Envisionfest)
Event	Earth Day Festival
Event	Northeast Neighborhood Parade
Event	"Hartford Loves Poetry" – Barbour Branch Hartford Public Library
Event	Keney Park Family Day Festival (Family Day Foundation)

Event	African American Day Parade (Committee) – used to end in Keney Park, hasn't been in NE for 10 years
Event	West Indian Day Parade – want it back on Main St.
Event	Opportunities Fair at Clark St. School
Event	Walking Group (Pond House)
Historic figure	Frederick Law Olmsted (landscape architect) buried in cemetery
Historic figure	Jackie McLean (jazz saxophonist) and wife Dollie McLean founded Artists Collective in 1970, founded Hartt School at Univ. of Hartford
Historic figure	Nat Reeves (basist) – protégé of Jackie McLean, still teaches at Hartt School
Historic figure	Kelvin Anderson (boxer) lived at Vine and Rockville
Organization	Intercity Exchange (no longer exists, was important in community)
Organization	Conway School (Dr. Nina Antonetti)
Organization	CT Historical Society - Jody Blankenship
Organization	Real Art Ways, Inc.
Organization	MECA – Kristina Newman-Scott
Organization	Friends of Keney Park (Henry Hester, VP)
Organization	KNOX (Ron Pitz)
Organization	Hartford Public Library (Matt Poland)
Organization	Billings Forge
Organization	Hartford Foundry
Organization	Sankofa Kuumba (African drumming / cultural org)
Organization	Parker Memorial Center (Kelvin D. Anderson Gym)

Organization	Hartford Communities That Care
Organization	Greater Hartford Jazz Society – mon nights born in North End
Organization	CRT (Community Renewal Team) – some arts programming
Organization	Salvation Army
Organization	YMCA on Albany (afterschool programming, zumba)
Organization	Project Longevity Hartford
Organization	The Bushnell (iQuilt Project)
Organization	Connecticut Department of Economic and Community Development, Offices of Culture and Tourism
Organization	Greater Hartford Arts Council
Planning document	A Vision for a Vibrant Northeast Hartford by Seana Cullinan and Rachel Jackson, The Conway School
Public space	CT EDC Outdoor Classroom
Public space	City Compost Operations
Public space	Urban farm
Public space	Rain garden
Public space	Youth Council activation of vacant lots
Public space	Keney Park - Gully Brook
Public space	Intersection at Vine and Garden Streets – rough corner
Public space	Corner of Garden and Westland – origin of Monday Night Jazz
Public space	Hartford Circus Fire Memorial (in Stowe Village Housing)
Venue or building	Swift Factory (Hub)

Venue or building	Keney Park Pond House – Herb Wright
Venue or building	Barbour Branch library building
Venue or building	Kabbalah House Arts and Culture Café
Venue or building	VFW – performances
Venue or building	Artists Collective, Inc.
Venue or building	West Indian Social Club (concerts, parades)
Venue or building	"It's a Gee Thang" Barbershop, Salon and Spa