

NORTHEAST NEIGHBORHOOD

SUSTAINABILITY PLAN - HEALTH IMPACT ASSESSMENT

October 2014

Prepared for and in
collaboration with

**COMMUNITY
SOLUTIONS**

by



Michael Singer Studio

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Note about Sources and Links
 This report includes citations and sources. If reviewing a digital version of this document, terms that are *italicized* and *underlined* may be clicked on to open a relevant website. Quotes that are not cited are attributed to participants in community meetings.

Disclaimer

The opinions expressed are those of the author(s) and do not necessarily reflect the views of the Health Impact Project, Robert Wood Johnson Foundation or The Pew Charitable Trusts.

Community Solutions 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 including 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 their own solutions to their 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.

Community Solutions' neighborhood initiative in the Northeast Neighborhood of Hartford, Connecticut has brought together residents and over 40 organizations to improve the health and prosperity of the neighborhood. The Northeast Neighborhood suffers from high unemployment rates, poor public health and is among the poorest census tracts in the country. As our work began in the neighborhood we realized that there was a need for a comprehensive plan for the physical improvement and sustainability of the neighborhood. A plan that would identify and prioritize areas of needed physical change. In 2012 we commissioned the Conway School of Landscape Design to assist us in examining the neighborhood's assets and opportunities. This review of possibilities outlined key areas of action that would align physical landscape changes with the vision of restoring the neighborhood to health, safety and prosperity for the benefit of current and future residents.

This report summarizes a collaboration between Community Solutions and Michael Singer Studio as part of a Health Impact Assessment funded 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 policymakers.

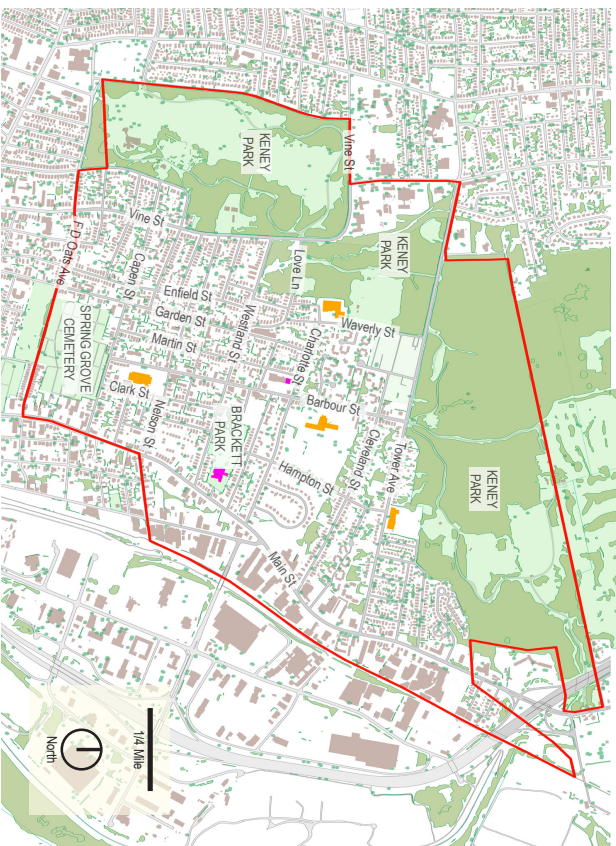
In 2013, building upon the Conway School's visioning document, we embarked on a Health Impact Assessment while also developing a sustainability plan for the neighborhood in collaboration with Michael Singer Studio. Combining these two exercises allowed us to create an actionable neighborhood revitalization plan with credible and persuasive health data offering residents, stakeholders and our partners the tools needed to consider the most significant opportunities for advancing neighborhood health while improving the quality and sustainability of the physical environment. This document reflects the insights and recommendations of field experts, neighborhood residents and community partners.

This Health Impact Assessment and the Northeast Neighborhood Sustainability Plan are two new tools for Community Solutions. Residents and other stakeholders to use in making the "healthiest" decisions while improving the physical environment of the neighborhood. Understanding that physical health, the social determinants of health and the physical environment are inextricably linked, this plan reflects key design, health and prosperity goals that emerged from a public and community engaged process to uncover opportunities for building a healthy community.

Rosanne Haggerty, President
 Community Solutions

GOALS

- Goals of the Integrated Northeast Neighborhood Sustainability Plan - Health Impact Assessment:
 - Highlight the Northeast Neighborhoods existing assets and opportunities along with key areas for stakeholder investment;
 - Bring together and engage a diverse group of stakeholders through the Northeast Neighborhood Sustainability Plan - Health Impact Assessment processes to identify and prioritize opportunities that will have the greatest impact on the residents' health and well-being and ensure success and accountability;
 - Use community identified priorities - safety, employment, and youth engagement as a framework for this project;
 - Use the Health Impact Assessment to recommend key positive changes and ensure that health remains a critical consideration in the development of the Northeast Neighborhood Sustainability Plan; and
 - Develop and implement a Neighborhood Sustainability Plan that includes key opportunities for physical and environmental change to improve the Northeast Neighborhood residents' health and well-being.



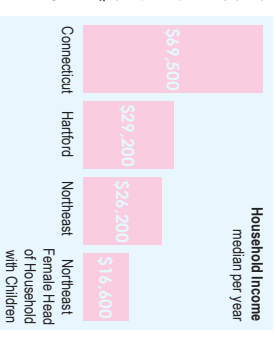
Neighborhood Overview Map

This map indicates the extent of Hartford's Northeast Neighborhood (shown outlined in red). Base data is from the Geographical Information Systems (GIS) layers from the City of Hartford.

- Outline of the Northeast Neighborhood
- Open Space (Parks, Cemeteries, Golf Courses)
- Neighborhood Public Schools
- Approximate Tree Canopy Coverage
- Select Trees (from GIS Trees Layer)
- Neighborhood Public Community Spaces
- Buildings
- Roadways

NEIGHBORHOOD INTRODUCTION AND DEMOGRAPHICS

The Northeast Neighborhood is defined roughly as the area in Hartford's north end which is 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, of which the majority is African American (79%) and Latino (19%). With a median household income of \$26,180, a 21% unemployment rate, and 34.4% of households living below the poverty level, the Northeast Neighborhood is the poorest neighborhood in one of America's poorest cities. Thirty four percent of the heads of household in the Northeast Neighborhood are females with children under 18 and a median income of \$16,630. Over 95% of Northeast Neighborhood families with children in school live in poverty (defined as eligible for free or discounted lunch at school). As a comparison, median household income for Connecticut as a whole is one of the highest in the country at \$69,519. In the Northeast Neighborhood, only 55% of residents between 16 and 65 participate in the labor force. In 2000, just 4.5% of the population over 25 years had college degrees and only 66% had a high school diploma.¹



Of Hartford's 17 neighborhoods, the 2012 Hartford Health Equity Index ranked the Northeast Neighborhood lowest (worst) in health equity for potential "years of life lost", diabetes, and infectious disease, as well as among the lowest in cardiovascular disease and respiratory disease for its residents. The Northeast Neighborhood has the highest levels of obesity, heart disease, infant and neonatal mortality, preventable infections and communicable diseases in Hartford. The neighborhood's health infrastructure is limited and includes a private medical clinic that is not easily accessible without private transportation and a mental health facility that serves all of the City's northern neighborhoods. There is a federally qualified health center and a hospital with a primary health clinic, both outside of the neighborhood. There are no pharmacies in the Northeast Neighborhood.

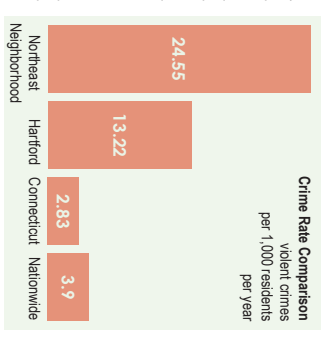
Crime in the Northeast Neighborhood
 With an annual rate of 13,222 violent crimes and 42,541 property crimes per 1,000 residents, Hartford is one of the 100 most dangerous cities in the country. Hartford's per square mile crime rate is 1,544% of the Connecticut statewide average. A disproportionate number of those crimes take place in the Northeast Neighborhood, which has the highest crime rate citywide.² Crime, therefore, is a major challenge to overall health and well-being in the Northeast Neighborhood.

Thanks to ongoing activities by Hartford Communities That Care's Violence Free Zone program and COMPASS Youth Collaborative's Peacebuilders Initiative (as well as both parties' many project partners), fortunately, crime in the Northeast Neighborhood is being actively and effectively addressed.

In the context of a Health Impact Assessment it is important to note the Cure Violence model that tackles violence as if it were an infectious disease. The three main tactics utilized in the Cure Violence model are interrupt transmission, identify and change the thinking of highest potential transmitters, and change group norms.

The Cure Violence model has had success in neighborhoods of Brooklyn, New York and Baltimore, Maryland that share some similar socioeconomic characteristics with the Northeast Neighborhood.

Community Solutions intends to further enhance its collaboration with the various partners leading the fight against crime in the Northeast Neighborhood. Many strategies and activities outlined in this report such as improvements to the physical environment, can complement ongoing crime reduction efforts.



1. Census 2010 and American Community Survey 2005-2009 by the United States Census Bureau, Labor Force Statistics by the United States Department of Labor Bureau of Labor Statistics, and Labor Market Information by the Connecticut Department of Labor
 2. NeighborhoodsSocial.com and Hartford Police Department

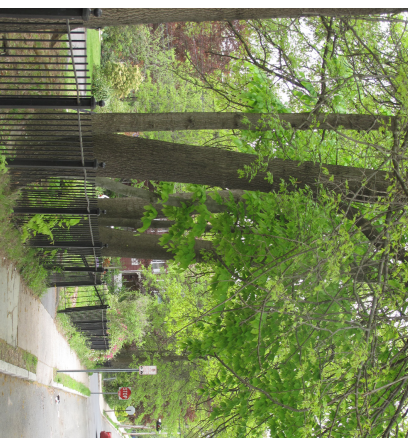
FROM NARRATIVE OF LOSS TO NARRATIVE OF HOPE

Neighborhood residents have a shared narrative of loss. Statements such as “we used to have a great African American Day Parade... but not anymore” reference a desirable past and are commonplace. This sense of loss is further reinforced by a multitude of interruptions to the original urban fabric of the neighborhood in the form of vacant lots and disused properties.

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

- **People:** the Northeast Neighborhood has an active community based leadership coalition. Additionally, non-profit and community groups are diligently working to mobilize local young people and concerned residents to enhance the safety, health, education, and overall well-being in the neighborhood.

- **Proximity:** the Northeast Neighborhood is located only 1 mile from downtown Hartford. The downtown has seen significant economic development and associated employment opportunities in the past 5 years. The neighborhood is well served by interstate highways 91 and 84, and is close to educational institutions such as Greater Hartford Community College, University of St. Joseph, Trinity College, University of Hartford, and the soon to be Hartford campus of the University of Connecticut, which is the State's largest public university system.



A charming tree lined street in the Northeast Neighborhood

“There was a great jazz collective on Westland Street”

“We used to be block associations that helped keep people together”

“There were a lot of good jobs at Swift [gold leafing factory] before things started winding down”

“This used to be a great place for kids... safety was never a concern”

- **Amenities:** the Northeast Neighborhood 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 containing remarkable facilities such as cricket fields, a golf course, and nature trails.

- **Overall Charm:** the Northeast Neighborhood has abundant housing stock featuring single and multi-family homes with “good bones” and a historic character. Many properties feature generous front and back yards, and host large trees. The neighborhood has many residential streets defined by a truly impressive street tree canopy.

PROCESS

A collaborative team worked with stakeholders to develop this Northeast Neighborhood Sustainability Plan. The plan includes opportunities that are specific, actionable, plausible, and that respond to residents, and was developed in tandem with a neighborhood Health Impact Assessment. Health Impact Assessment is a process used to identify the health consequences and benefits of new public policies, plans, projects, and programs using a data-driven approach. This enables the development of strategies that enhance the health benefits of proposed policies and interventions and minimize adverse effects. In order to reach a deep understanding of neighborhood level health concerns, and in order to promote actions that can improve health, the neighborhood sustainability planning process and the Health Impact Assessment were therefore intertwined. The planning process was directly informed by the Health Impact Assessment, which was used as a proactive tool that helped guide the Northeast Neighborhood Sustainability Plan.

The Health Impact Assessment process begins with initial research and community engagement. This phase started in the autumn of 2012 and helped form a list of potential plan concepts or “opportunities”. The team undertook broad research on health supporting/job creation practices in other communities in the United States and internationally that match these opportunities.

Community Solutions’ Community Engagement Coordinators (all of which are Northeast Neighborhood residents) led a stakeholder engagement process that identified neighborhood priorities by use of surveys, community meetings, and open events. Through a door-to-door survey residents stressed that crime/violence, unemployment, and lack of youth engagement are the three most pressing challenges the community faces.

Over several community meetings (including a 2 day Health Impact Assessment training), the team created detailed profiles of employment, safety, and health concerns of neighborhood residents, and discussed changes to the physical environment that could improve outcomes in these areas. Opportunities for physical modifications were assessed based on their perceived feasibility and whether Community Solutions and its Northeast Neighborhood partners had a unique ability to drive change.

The team included in its process the social determinants of health along-side the physical health indicators typically addressed through Health Impact Assessments. This enabled the team to address residents’ concerns with employment and safety as part of the Health Impact Assessment process. The team then integrated survey outcomes with City of Hartford Department of Health and Human Services data and the Connecticut Health Equity Index to capture the most prevalent and urgent health risks faced by Northeast Neighborhood residents. These are: cardiovascular disease, diabetes, obesity, and asthma. As described in the Health Impact Assessment report, all opportunities presented in this report address these key health risks.



Community members at the Health Impact Assessment training

A PLACE BASED APPROACH

This report summarizes Northeast Neighborhood specific opportunities to improve health and safety, increase employment opportunities for residents, and contribute to overall well-being in the community. These opportunities were identified by a community driven process as part of a Health Impact Assessment. Several core principles guide the development of the various opportunities outlined in this report:

Unique to the Northeast Neighborhood

A unique combination of features distinguishes the Northeast Neighborhood from other seemingly similar communities. This includes assets such as Keney Park, existing leaf composting facilities, and the former Swift factory complex which is decontaminated, owned by Community Solutions, and soon to be repurposed. The Northeast Neighborhood is therefore set apart from other neighborhoods, and warrants a response that is tailored to its distinctive assets.

Local Economic Opportunity

All opportunities outlined in this report provide employment for residents within walking distance from their homes in the Northeast Neighborhood. These jobs are with businesses anchored in the community; businesses that rely on local resources and utilize local services. Given that these businesses rely on local resources (such as Keney Park) to prosper, jobs that they provide cannot be exported. These opportunities therefore create a local neighborhood economy where skills are shared, business contacts are developed, jobs are present, and wealth is accumulated within the community.

Ownership by Residents

The various businesses described in this report can start small and expand over time. Whether privately or cooperatively owned, these businesses are competitively located to effectively tap into specific resources such as Keney Park and the existing leaf composting facilities. Moreover, several of these businesses may be able to benefit from reduced costs by being located at the heart of the neighborhood in the soon to be redeveloped Swift factory complex. Local businesses do business with other local businesses and their employees spend money at local businesses. Therefore there is a multiplier effect on their activity in the community, and their cumulative impact is even greater than the mere sum of their parts.

Sustained Prosperity

The opportunities provide for the creation of local Green Collar jobs which are skilled and specialized. Green Collar jobs in fields such as urban forestry and specialty local crafts and manufacturing can be connections to the communities' longterm economic prosperity. Given that these jobs are linked to place based businesses that cannot be outsourced, professional skills and economic prosperity will increase. All of the opportunities closely link to education, training, and job placement to promote the development of a well equipped workforce. The various business opportunities are uniquely placed to serve communities within the Capital Region and beyond, thereby rebalancing the disparities between the Northeast Neighborhood and surrounding communities.

Health and the Environment

The opportunities contribute to the health and well-being throughout the Northeast Neighborhood, and contribute to a cleaner and healthier environment.

Community Priorities

By including community members and an advisory committee to identify and define the various opportunities, all recommendations in this report address community interests, concerns, and priorities.

After receiving feedback through multiple engagements and outreach mechanisms over 6 months, we narrowed down... [the] opportunities that were developed in conjunction with the Advisory Committee and other stakeholders into: Safe Intersections... Productive Keney Park... Vacant Lot Redcivation... [and] Street Trees and Electric Service



Examples of the Northeast Neighborhood's unique features (top to bottom): an impressive street tree canopy, the decontaminated and soon to be redeveloped Swift factory complex, and Keney Park

OPPORTUNITY 1: PEDESTRIAN AND BICYCLIST SAFETY

Pedestrians in the Northeast Neighborhood, especially children, are particularly exposed to risk of injury by motor vehicles. This is due to a combination of two key factors ³:

- Hartford's standing as one of the most dangerous metro areas in the nation for pedestrians
- Risk of child pedestrian injury is linked with lower socioeconomic status

It is important therefore to focus on enhanced safety for pedestrians, especially for the most at-risk younger pedestrians. The logical place to begin pedestrian safety enhancements is in relation to key intersections near the neighborhood's three K-8 schools.

The United States Department of Transportation's Safe Routes to School (SRTS) program 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 is administered by the Connecticut 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 the Northeast Neighborhood, 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 should be positively considered.

"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"³

While currently no new SRTS funding is available for infrastructure improvements, funding is available for educational activities, programming, and planning. It is prudent to plan in advance of any implementation funding availability. This produces a "shovel ready" project that can be seriously considered when infrastructure funds do become available, or when potential funding from other sources is identified. In order to apply for SRTS funding a SRTS Plan needs to be developed by a community based coalition. Connecticut's SRTS program can provide some technical support and guidance for the development of a Northeast SRTS Plan. A SRTS Plan may propose additional benefits to the neighborhood. For example: a SRTS Plan can include requirements for procuring services from neighborhood based businesses or businesses that hire community residents (for example: roadwork and construction jobs). A SRTS Plan can also include opportunities for vocational and job training in the planning and implementation of improvements.

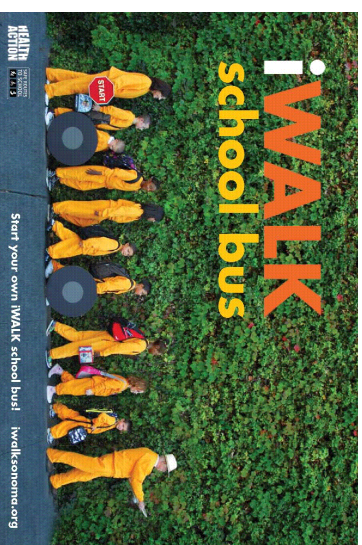
Community Solutions is organizing community partners to advance a Northeast Neighborhood based SRTS Plan. Partners such as local schools, parent groups, block associations, faith based organizations, and the City's Departments of Public Works and Planning will, it is believed, come together to support such an effort. This initiative is in line with Hartford's comprehensive plan One City One Plan, as well as with the Capitol Region Council of Governments' plans including its Regional Pedestrian and Bicycle Plan. Community Solutions is hopeful that initial planning support might be available through the City, Capitol Region Council of Governments, and Connecticut SRTS.

3. Child Pedestrian Safety in Hartford by Louise LaChance-Price, University of Connecticut 2005.
4. safetravel.ct.gov

SRTS success stories relevant to the Northeast Neighborhood ⁴:

- In El Paso, Texas a SRTS plan was implemented in order to increase walking rates to school within a primarily Hispanic neighborhood. According to the SRTS website, 90% of the neighborhood students are at risk of obesity and walking to school has significant positive public health impacts.
- In Ladson, South Carolina SRTS activities prompted establishing a wellness committee focused on education around physical activity and nutrition. The committee has extended its activities beyond schools and pedestrian safety, and has an ongoing impact on the community.
- In Rock Hill, South Carolina older students are involved in a primary school's SRTS plan by mentoring younger students as they walk together to school.
- McCook, Nebraska established a SRTS plan as part of a community driven effort bringing together multiple parties around a shared topic of concern.

Right: a promotional poster advertising a SRTS "Walking schoolbus" activity in Sonoma County, California. Walk is an initiative by *Health Action*, a partnership of community leaders and organizations who are committed to improving health and health care for all Sonoma County residents.



Below: a SRTS "walk to school" activity in New Jersey





Bulb-Outs (left above and below):

A common pedestrian safety feature is "bulb-outs" (also known as curb extensions). The City of San Francisco Better Streets initiative cites the following potential benefits to bulb-outs:

- Increased pedestrian visibility at intersections through improved sight lines
- Decreased pedestrian exposure to vehicles by shortening the crossing distance
- Reduced vehicle turn speeds by physically and visually narrowing the roadway
- Increased pedestrian waiting space
- Additional space for street furnishings, plantings and other amenities
- Reduced illegal parking at corners crosswalks and bus stops
- Facilitated ability to provide two curb ramps per corner

Additional benefits include features that help treat and regulate storm-water locally.

Pedestrian and Bicyclist Safety

Opportunities at the intersection of Marin Street and Westland Street (opposite page)

- 1 Westland Street is narrowed to 11' foot lanes allowing for parking on either side of the street, a bus pull off, and bike sharrows. (Dedicated bike lanes are a possible alternative.)
- 2 An improved parking lot in the rear of 164-170 Westland Street may be traded for a small plaza at the intersection.
- 3 A small shelter may be designed to double as a bus stop and shaded plaza seating area.
- 4 On-street parking is established on the west side of Marin Street only, maintaining 11' lanes and existing curb lines.
- 5 Curb "bulb-outs" with planters and crosswalks are provided at the intersection to improve safety and increase public space.
- 6 Pedestrian level lighting and banners added to existing poles.
- 7 Establish additional landscaping in the public right-of-way.
- 8 Optional mid-block "bulb-outs" with small flowering trees.



The intersection of Marin Street and Westland Street is provided as a sample intersection, indicative of the Northeast Neighborhood. Design features are shown at a conceptual level for the purpose of demonstrating potential and possibilities.

OPPORTUNITY 2: PRODUCTIVE KENEY PARK

With an area of nearly 700 acres, Keney Park is one of the largest urban parks in northeastern United States.⁵ Keney Park houses vast woodlands, open meadows, trails, recreational and athletic facilities, along with unique features such as a pond and pond house (used for educational activities) and equestrian amenities. The Northeast Neighborhood is defined by Keney Park along both its northern and western borders. 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 extraordinary local resource. Keney Park is therefore a major City park, but paradoxically does not serve the immediately adjacent neighborhood.

A more productive Keney Park will provide local jobs, access to recreation, and a healthier environment in the Northeast Neighborhood. There are several strategies to promote a more productive Keney Park:

- **Livestock:** the use of livestock for vegetation control and park maintenance
- **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
- **Tree Harvesting:** selective tree harvesting for forest products such as furniture, and harvesting of woody debris for biomass
- **Access:** increasing safety and accessibility to Keney Park from the neighborhood through enhanced signage, improved entry ways from the neighborhood, and active programming

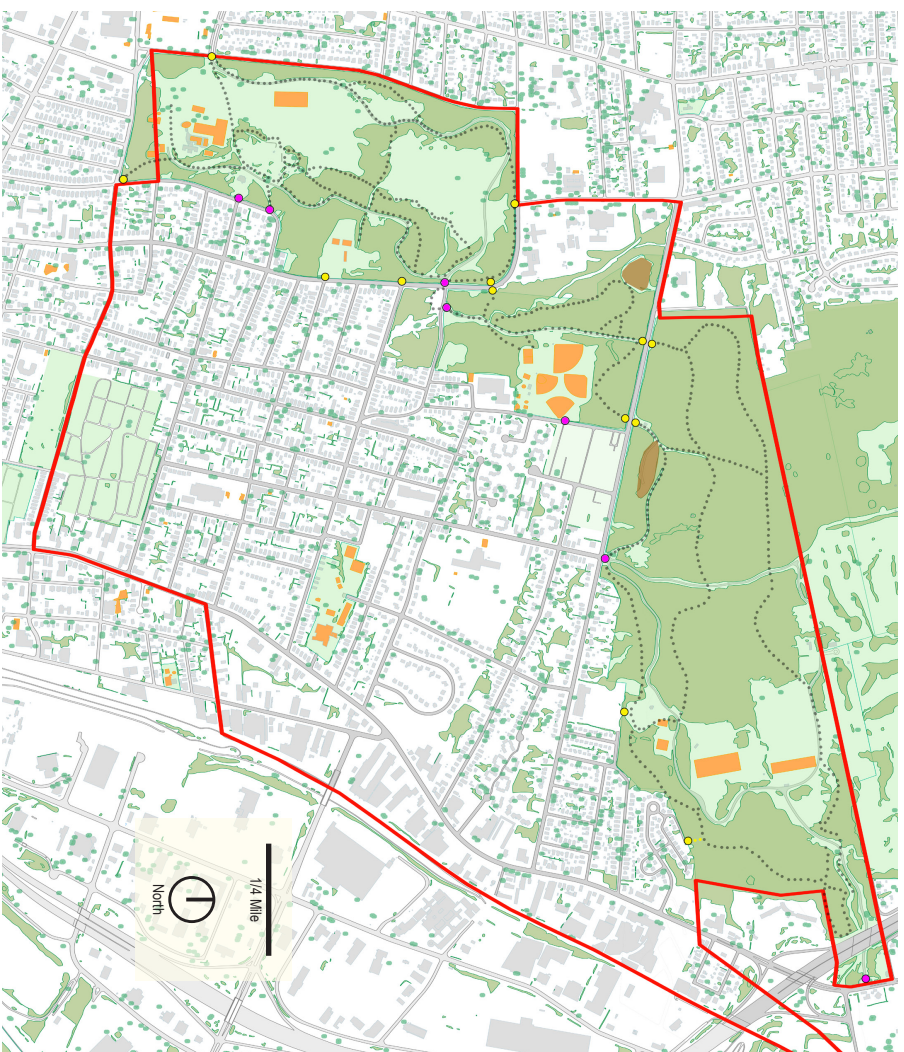
These opportunities present Keney Park as a working forest that combines productive, recreational, and educational uses. Additional opportunities can be considered within Keney Park such as agroforestry operations that support specific crops as well as tree nurseries.

Community Solutions will mobilize the Northeast Neighborhood partners to collaborate on improving accessibility and recreational, educational, training, and employment opportunities within Keney Park. This is conceived as part of a greater effort involving several partners such as Friends of Keney Park, Knox Parks Foundation, the Family Day Foundation, Capital Workforce Partners, Ebony Horsewomen, several municipal departments, and other parties that are concerned about conditions in Keney Park.

A beautiful wooded roadway through Keney Park



"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."⁴



Keney Park Map
This 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.

- Outline of the Northeast Neighborhood
 - Open Space (Parks, Cemeteries, Golf Courses)
 - Recreational Facilities
 - New Keney Park Entrances for Consideration
 - ⋯ Approximate Location of Keney Park Trails
 - Approximate Tree Canopy Coverage
 - Existing Composting Facilities
 - Select Trees (from GIS)
 - Existing Entrances to Keney Park
5. 584 acres in Hartford, the remainder is within neighboring Windsor. Keney Park was designed by the legacy firm of Frederick Law Olmsted, who was a Hartford native and is buried in the Northeast Neighborhood.
6. *Hartford's Parks* by Hartford's Green Ribbon Task Force, Spring 2011.

Opportunity 2a: Livestock

There is a long history of livestock use in vegetation control. Many 19th century parks, including Keney Park itself, housed small herds that served for meadow upkeep.⁷ There is a resurgence in using livestock for park and lawn care. Livestock based vegetation control adds beneficial nutrients to the soil, and does not rely on small engine equipment that consumes fossil fuel and contributes to air and noise pollution. Additionally, using livestock for vegetation control can offer cost savings 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 even be selected to target specific invasive species depending on the time of year and their dietary preference. 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.

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.

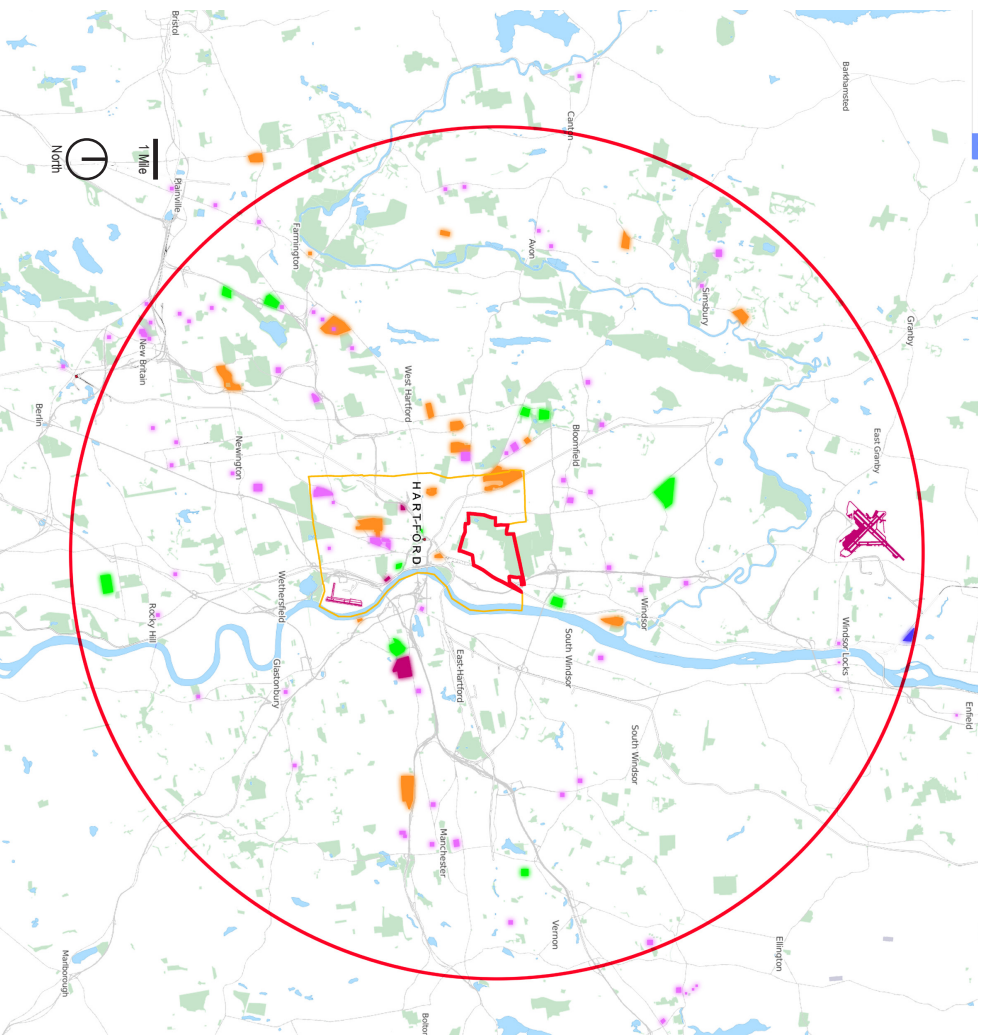


Children watch urban sheep at work

A Northeast Neighborhood business providing livestock based vegetation care can serve the City by providing services for Keney Park as well as other municipal parks and vegetated areas. For example, the City's current efforts of clearing 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 and corporations 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 serve also private clients such as United Technologies Corporation and Cigna Corporation, as well as other commercial and residential clients in the Capitol Region.

Contemporary precedents for livestock use include:

- The City of Paris, France, the National Park Service at Fort Wadsworth in New York, O'Hare International Airport in Chicago, Illinois, and Amazon oil use livestock routinely for vegetation control and lawn maintenance.⁸
- The City of San Francisco, California and Town of Bridgehampton, New York use goats to control invasive species.⁹
- 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.¹⁰



Potential Alternative Land Management Clients

This map indicates the location of potential alternative land management clients within a 10 mile radius of Hartford's Northeast Neighborhood (shown center outlined in red). The map includes parks, cemeteries, open spaces, and golf courses as well as educational, corporate, and healthcare campuses that have significant landscape areas to maintain. Base data is courtesy of *OpenStreetMap*. Data is not necessarily all-inclusive, for instance public school land, State DOT land, and large private estates could be potential clients, but are not included in this map.

- Outline of the Northeast Neighborhood and 10 mile radius
- Outline of the City of Hartford
- Major Venues (airports, stadiums)
- Educational Institutions (colleges, private schools)
- Parks, Cemeteries, Golf Courses and Open Spaces
- Healthcare Facilities (hospitals, nursing homes)
- Corporate Campuses
- Correctional Facilities

- A phone interview with Brian Knox of *Eco Goats* helped uncover some of the realities around using livestock for parkland and lawn care:
- 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 1/4 acre.
 - The smallest financially feasible business would operate two herds of 30 animals each.
 - An animal will typically consume around 25% of its own bodyweight per day in vegetation. A 1/4 acre of dense overgrowth will be consumed by a 30-head herd of goats 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 much less vegetation (sheep are appropriate for lawn care while goats are better suited for controlling overgrowth).
 - Livestock are not productive at clearing vegetation in the winter months, and need to be fed in order to survive. In order to reduce wintertime 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.
 - 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 rain and snow. While the shed does not need to be heated, one must keep drinking water from freezing.
 - 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.

Community Solutions will invite potential project partners to explore the establishment of a Northeast Neighborhood based business that provides lawn and parkland care through livestock. Possible project partners include the City of Hartford, Friends of Keney Park and other parks' Friends organizations, the Family Day Foundation, Ebony Horsewomen, Knox Parks Foundation, Capital 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.

7. *The Park Movement in Hartford* by Brenda Miller, ConnecticutHistory.org April 2014.
8. *Let Them Eat Grass* by Eleanor Beardsley, National Public Radio May 2013; *Livestock for Rent* by Kara Lynn Dunn, Farming Magazine October 2013; *Chicago's O'Hare Airport Hired a Bunch of Goats* by Jennifer Poland, Business Insider May 2013; and *Amazoo: Hires Goats* by Aleksandra Sagan, CBC News July 2013.
9. *The Running of the Goats* by Eric, City Grazing online blog March 2014; and *God Invasive Plants? Goats to the Rescue*, Beyond Pesticides online blog May 2014.
10. *Volunteer Flock to Help Cut Council Costs* by Jan Goodey, The Guardian October 2009.

Opportunity 2b: Composting
 Connecticut has effectively run out of landfill capacity, generally does not permit exporting waste to other states, and has experienced resistance to expanding existing waste-to-energy facilities or siting new facilities. Therefore, it is only a matter of time before waste disposal costs will significantly rise throughout the State. As costs rise, municipalities typically switch to "pay as you throw" waste collection systems as opposed to the flat fee system presently employed. "Pay as you throw" typically charges only for rubbish and not recyclables or compostable waste. Once such a transition occurs, 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.¹¹ While composting is a sure way to significantly reduce the waste stream, it also produces rich soil that can be bagged and sold for a profit.

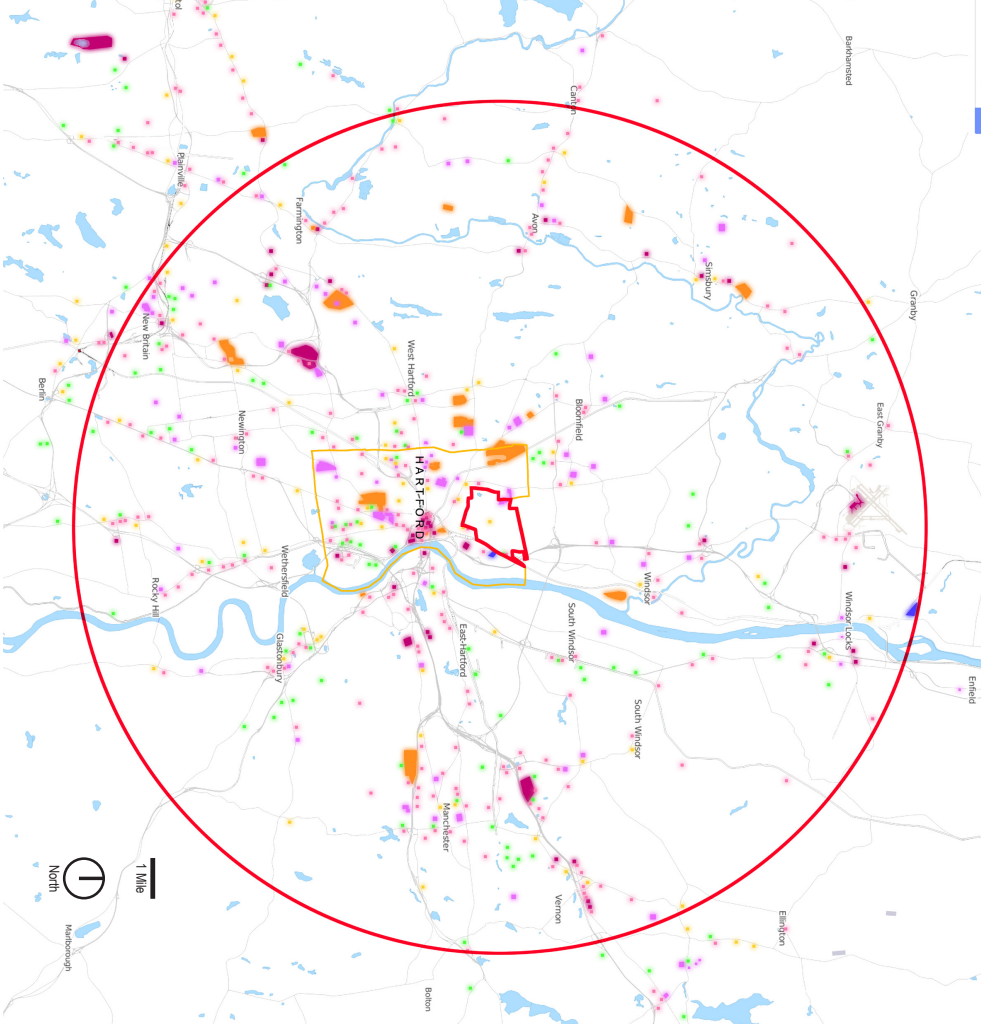
There are two permitted leaf composting facilities in Keney Park owned and operated by the City of Hartford. Neither seems to be used to its fullest capacity. However, one of them may actually be used as a staging ground for other activities. Either of these facilities could potentially be upgraded to 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 by Northeast Neighborhood residents and offer training and Green Collar employment.

- Based on a phone interview with a Connecticut Department of Energy and Environmental Protection Organics Recycling Specialist, there are two main hurdles preventing composting from becoming commonplace:
- Mismatched perceptions about composting, public health, and odors
 - The lack of a statewide "pay as you throw" waste disposal pricing system
- A combination of education and financial realities, therefore, are likely to make composting widely accepted throughout the State in the near future.

"Composting offers two immediate financial benefits: it reduces quantity of a waste product one needs to pay to get rid of AND it creates a valued product!"



Composting is the process of decomposition, breaking down organic matter, and its reprocessing into highly valued fertilizer and soil amendment. Residential backyard composting is very popular in many communities, offering residents a free source of nutrients for their private gardens. In communities where waste collection is charged by volume or weight, there is the added benefit of cost savings as composted matter is removed from the waste stream. Depending on the material being processed, commercial composting processes take place in wind rows, containers, enclosed bays, or in digesters. Digesters offer the advantage of being able to receive a wider variety of material (such as meat) as well as the creation of other useful outputs such as energy (in the form of heat and gas).



Food Residuals - Composting Resources Map

This map shows 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, who indeed produce food residuals, 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

Select Precedents:

- 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.¹²
- *Pedal People* is a human powered (bicycle driven) cooperatively owned business that provides waste, recycling, and compostables hauling services in Northampton, Massachusetts. *Pedal People* also provides delivery of farm share produce and moving services, all by co-owners of the business. *Pedal People's* rates are competitive with traditional waste haulers, and has contracts with residences, businesses, and municipal agencies.

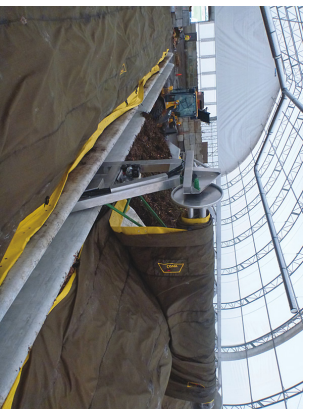
Community Solutions invites potential project partners to explore establishing a Northeast Neighborhood based business that operates a food scraps composting facility within one of the two permitted leaf composting facilities in Keney Park. Such a business would lease the land or facility from the City and in addition to creating valuable compost, could collect compostables as well as sell compost both retail and wholesale. Possible project partners include the City of Hartford, Friends of Keney Park, Knox Parks, Capital Workforce Partners and other job placement/local business/training related organizations and 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.

Bagged compost for sale at Whole Foods Market, made from compostables collected at Whole Foods Markets. The company thus reduces its waste stream while creating a valued product.





Above: a container based commercial composting system by *Green Mountain Technologies* being installed. Right: covered bays at a commercial composting facility.



11. *That's Not Trash, It's Compostable Food Waste* by Nancy Schoeller. The Hartford Current December 2013
12. *The Business Case for Composting* by Heather Clancy. GreenBiz April 2012

"Given perceptions around community opposition, a cooperatively owned composting business benefiting the Northeast Neighborhood residents is uniquely positioned to operate a composting facility at the existing woody debris composting facilities (located in Keney Park). This might be Connecticut's only chance at successfully siting such a facility within the Capital Region"

Opportunity 2c: Tree Harvesting

Keney Park is so large that it will likely benefit from some 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 such urban trees annually nationwide, which equals 30% of the country's traditional lumber industry hardwood production.¹⁹ Additionally, there are many miles of tree-lined roadways, and several other municipal and State parks near the Northeast Neighborhood. All of these resources combined offer the potential for a specialty urban tree harvesting and processing business based in the Northeast Neighborhood.

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 and every tree: its processes, and can therefore more effectively focus on higher end products such as furniture, custom carpentry, specialty veneers, and home goods. A Northeast Neighborhood based collage industry, therefore, would benefit from focusing on specialty and high quality products. Such an operation would be able to 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.

While 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), 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 Northeast Neighborhood operation could chip or pelletize it for use as a heat source.¹⁴ Generally speaking lower value products such as biomass require a quantity-driven operation to be financially feasible and therefore "Made in the Northeast Neighborhood" wood pellets for heat might not be able to compete on the open market with larger 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.

Community Solutions invites potential project partners to explore establishing 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, either privately or cooperatively owned by Northeast Neighborhood residents, would employ and train residents, and harvest felled/damaged trees from throughout the entire Capital Region. Following the Cincinnati model (see sidebar on opposite page), such a business could work in partnership with the City and contribute to improving its urban forests as mentioned in *One City One Plan*.¹⁸ Potential project partners include the City of Hartford, Friends of Keney Park, utility companies, State parks, Knox Parks Foundation, Capital Workforce Partners and other job placement/local business/training related organizations, local and vocational high schools, and other stakeholders.

Community Solutions would consider providing such a business with subsidized rent for office space, shop facilities, and vehicle/equipment storage within the upcoming Swift Factory redevelopment.



Custom furniture created at *Presentation Tree* by taking advantage of the unique features of individual felled urban trees

Precedents for a Northeast Neighborhood based urban lumber industry include:

- Private companies such as Horizon Urban Forest Products in the Chicago area and Wood from the Hood in the Minneapolis-Saint Paul region harvest felled trees and processes them into lumber for flooring, slabs for furniture making, and small household products.
- *Urbanwood*, a collaboration of Recycle Ann Arbor and the Southeast Michigan Resource Recovery Council, is southeast Michigan's reclaimed wood marketplace connecting buyers and sellers of lumber and specialty wood products.
- Through its *Urban Timber* program, the City of Cincinnati hosts a partnership between the Parks Department and local businesses where urban felled trees are sold as lumber or higher priced specialty woodworking product. The proceeds go to support municipal tree planting and local businesses.
- Institutions in the region are finding value in using biomass for heat. The Hotchkiss School in Lakeville, Connecticut installed two biomass boilers that use woodchips as fuel for a high efficiency steam based heating system. Schools in Vermont saved 43% to 84% on heating costs when converting their heating systems from oil, propane, electricity, or natural gas to biomass fed systems.¹⁶

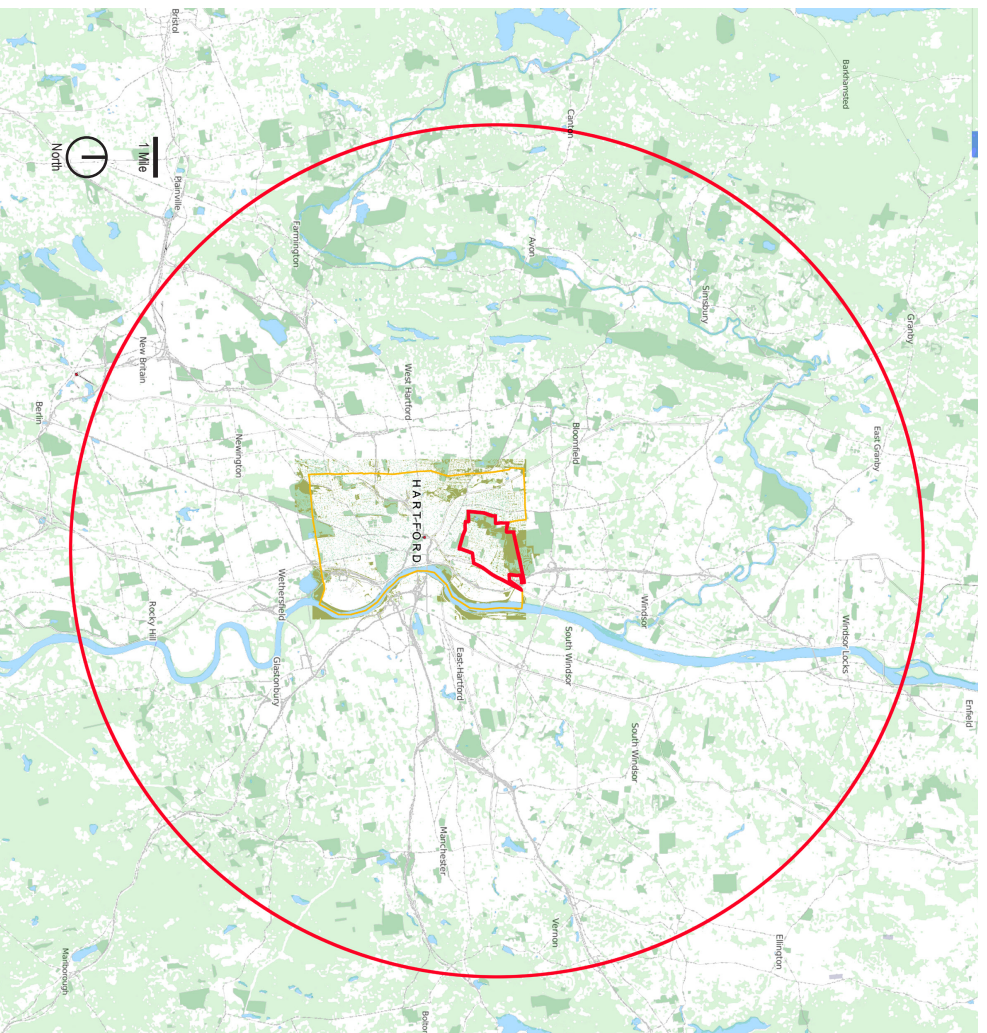


A view within Keney Park



Carpentry training

13. *Utilizing Municipal Trees: Ideas from Across the Country* by Stephen M. Bratkovich, United States Department of Agriculture Forest Service October 2001.
14. Pennsylvania State University's *Pelletizing Biomass Project* offers guidance to small scale pellet producers.
15. Hartford's 2011 comprehensive plan *One City One Plan* mentions funded capital investments intended to improve its urban forests, including the establishment of a street tree nursery.
16. *Vermont Schools the Nation in Woody Debris Biomass* by Steven Black, Property and Environment Research Center December 2011.



Forestry Resources Map

This map shows 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 *OpenStreetMap*, 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)

Opportunity 2d: Access
 Keney Park has well marked and maintained entry points that serve automobile users. Pedestrian entrances however are typically informal and not maintained except for the Pond House and the trails that penetrate the park from its surroundings. Keney Park therefore is more inviting to people traveling to it from afar by car than to neighborhood residents entering it on foot. Because of this and community perceptions about personal safety within neighborhood residents often do not use Keney Park.

Two ongoing efforts will result in Keney Park being more inviting to neighborhood residents:

- Friends of Keney Park is working on a trail improvement plan
- 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

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.¹⁷ Therefore, formalizing and maintaining pedestrian entry points to Keney Park from the Northeast Neighborhood is an important effort. Community Solutions is committed to further developing its collaboration with the various parties leading efforts to provide greater access for pedestrians to Keney Park, and intends to engage in park entry point improvement and maintenance. Project partners include neighborhood residents, Friends of Keney Park, Knox Parks Foundation, the Family Day Foundation, Capital Workforce Partners, Ebony Horsewomen, and several municipal departments.

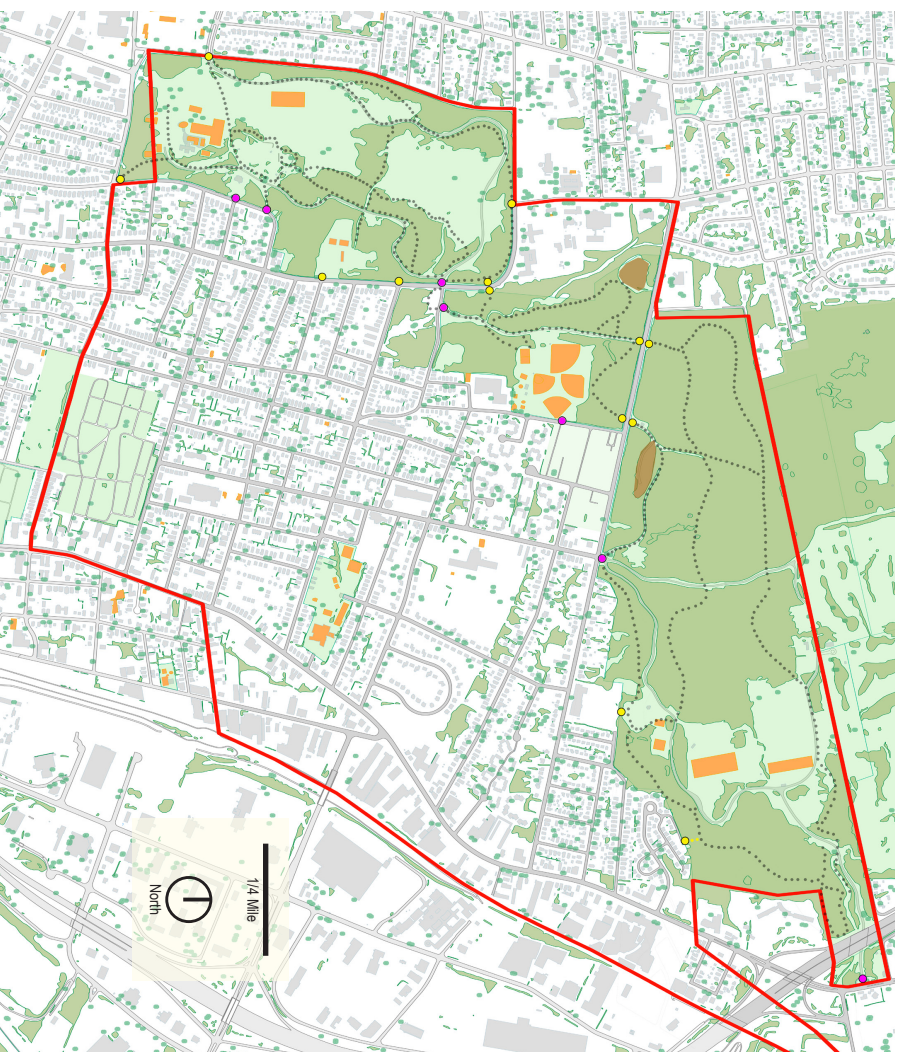


Formal and well-maintained vehicular entry into Keney Park



Right: Informal and not-maintained pedestrian entry into Keney Park

"If I felt it [Keney Park] was safe I'd go there all the time"



Keney Park Map
 This 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.

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

17. *The Links between Greenspace and Health* by Croucher, Myers, and Brethenford, Greenspace Scotland October 2007.

OPPORTUNITY 3: VACANT LOT REACTIVATION

There is a movement nationwide to use low-cost temporary and permanent approaches to reactivate vacant lots.¹⁶ While vacant lots are often associated with conditions of blight, urban decline, and high vacancy rates, activating vacant lots transforms them from potential locations for undesirable activities such as drug use and illegal dumping, into community amenities. Importantly, well-maintained areas increase one's perception of personal safety as well as a sense of pride in place which adds to residents' overall well-being.¹⁷ on previous page

The City Assessor's Office has provided a list of 107 vacant lots in the Northeast Neighborhood. Each lot has unique characteristics and adjacencies that will help determine how it may be activated to contribute to a safer, more walkable, healthier Northeast Neighborhood that offers its residents access to shared community spaces, recreation, and healthy nutrition:

- An informal play space can be created in a vacant lot in an area with a high concentration of young children that have no other age appropriate amenities nearby. Play areas may be fenced in to prevent exposing children to moving vehicles. A fenced-in play area can also be used by neighborhood childcare service providers.
- Rain gardens are created to help slow the flow of stormwater, reduce flooding, filter water and promote the infiltration of water into the ground. A rain garden can be introduced into a vacant lot surrounded by rooftops and driveways to help reduce stormwater flows in the Northeast Neighborhood. Vacant lots for rain gardens would be selected based on specific criteria such as adequate soil percolation rates and appropriate topography.
- Introducing seating, outdoor gym facilities, and a fruit tree orchard can activate a vacant lot near a neighborhood amenity such as a corner store, or a highly visible vacant lot along a main street within the neighborhood.
- 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. Raised bed gardening can also be considered in order to better control soil quality.
- A disused lot, whose owner is not interested in making it a public space, can be "seed bombed" to temporarily transform it into a beautiful low maintenance wildflower meadow.
- A tree nursery can be established in a vacant lot, to provide street trees throughout the neighborhood and the City.
- Cultural and art events can take place at any improved lot so long as sufficient space is allocated. This can include school bake sales, dance, performances, and story/telling.

All of the above features can potentially be combined, depending on the attributes of any specific vacant lot.

The opposite page shows several possible reactivation opportunities at the intersection of Martin Street and Westland Street. The adjacency of these features enhances their combined impact. Reactivation opportunities are shown alongside safety improvements for the same location described on pages 10-11 in *Opportunity 1: Pedestrian and Bicyclist Safety*. It is important to note that use and activity of private property, even if seemingly disused or empty, requires coordination with property owner.

The intersection of Martin Street and Westland Street is provided as a sample intersection, indicative of the Northeast Neighborhood. Design features are shown at a conceptual level for the purpose of demonstrating potential and possibilities.

18. *Planning Strickling Cities* by Justin B. Holander, Karina Palagyi, Terry Schwarz, and Frank J. Popper, 2009.



Potential Reactivation Opportunities, and Pedestrian and Bicyclist Safety Improvements at Martin Street and Westland Street Intersection

- 1 A gathering area along the sidewalk of a regenerated vacant lot, rain water harvesting from adjacent multifamily housing.
- 2 A community orchard with fruit and/or nut trees.
- 3 Vacant lot regeneration with a low maintenance flowering meadow, potential for stormwater collection and filtration from the adjacent property driveway and roof.
- 4 Westland Street is narrowed to 11' foot lanes allowing for parking on either side of the street, a bus pull off, and bike sharrows. (Dedicated bike lanes are a possible alternative.)
- 5 An improved parking lot in the rear of 164-170 Westland Street may be traded for a small plaza at the intersection.
- 6 A small shelter may be designed to double as a bus stop and shaded plaza seating area.
- 7 A small plaza or 'pocket park' with permeable paving may be created as a community space and beautification project adjacent to the ground floor business.
- 8 On-street parking is established on the west side of Martin Street only, maintaining 11' lanes and existing curb lines.
- 9 Curb bulb-outs with planters and crosswalks are provided at the intersection to improve safety and increase public space.
- 10 Pedestrian level lighting and banners added to existing poles.
- 11 A new community garden created on a vacant lot. An existing foundation may help to create an ADA accessible garden area.
- 12 Rainwater harvesting from an adjacent home for the garden.
- 13 Preservation of existing large trees on private property, planting of new trees as well using 1/4" tree, right place guidelines.
- 14 Rehabilitation of historical buildings (these date to the 1920's) will likely occur over time with community improvements.
- 15 Establish additional landscaping in the public right-of-way.
- 16 Optional additional bulb-outs with small flowering trees.

Community Solutions invites project partners to work together to develop a comprehensive approach for activating vacant lots. Potential project partners include property owners, experienced local leaders in lot reactivation and establishing community gardens, art, culture, and music organizations, the Family Day Foundation, the City, and other stakeholders. Community Solutions will work with these partners to establish a comprehensive program for cleaning up, reactivating, and maintaining community gardens, wildflower meadows, rain gardens, outdoor gyms and play spaces, and areas for arts and cultural activities throughout the neighborhood.



Vacant lots in the Northeast Neighborhood. Please note they are fee-of-duty, indicating they are monitored and receive care and attention.



On June 11, 2014 Community Solutions held a free and open to the public daylong workshop on designing and installing residential rain gardens for the purpose of minimizing stormwater flows in the Northeast Neighborhood.



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 that now serves as Community Solutions' Hartford office, at 60 Love Lane. Boehringer Ingelheim Pharmaceuticals provided funding for the rain garden construction materials and plants. The University of Connecticut Nonpoint Education for Municipal Officials program facilitated the workshop, and indicated it would be delighted to continue working in the neighborhood on additional rain garden workshops and installations.

While 60 Love Lane is not a disused lot, this is a good example of activating an under-utilized space into an environmentally functional beautification project that increases a sense of pride in place and overall well-being in the neighborhood.



OPPORTUNITY 4: STRENGTHENING THE URBAN CANOPY

The Northeast Neighborhood 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.²⁰ Unfortunately urban trees can interact with overhead electric power lines causing service interruptions. Electric utility providers spend significant resources on vegetation control to prevent service interruptions due to downed trees and limbs. For example, Connecticut Light and Power (CL&P) the local service provider spent \$32M on vegetation control during 2013, and is planning to spend \$53M in 2014. These vegetation control methods do not take into account neighborhood aesthetics, shading and human comfort, and other neighborhood considerations.

In the aftermath of tropical storms Irene and Sandy, 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.²⁰ A great majority of the Northeast Neighborhood trees are older than these guidelines and may very well not comply with them. Therefore they are at risk of removal. Unfortunately funding is available for tree removal, but not stump grinding or planting of replacement trees.

Because of the State's updated tree removal guidelines, the existing urban forest of the Northeast Neighborhood is at risk of eventual decline and removal. This could result in significant adverse impact on neighborhood health and quality of life. Most of the neighborhood's urban forest is located on private land within setbacks, and not. Therefore, being 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 low homeownership rate of 17%,²¹ it may be difficult to ensure residents' participation in decisions about 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 landlords it is often easier and less costly to remove trees as opposed to maintaining them, especially as trees reach maturity (a phrase many Hartford trees are in).



A mature tree in a private front yard in the Northeast Neighborhood, potentially dangerously close to overhead electric lines



Aerial photo of a portion of the Northeast Neighborhood showing that most trees are in side and rear yards and not along public streets

A stewardship approach must be assumed by stakeholders in for the urban canopy to thrive and continue providing important services to the neighborhood. Stewardship includes realizing that the urban forest is a dynamic system of decline and regrowth, and that new trees must be planted well in advance of older trees' removal. Programs such as Knox Park Foundation's Tree Tender training and utility companies' funding for street tree planting (such as United Illuminating Company's [Tree Renewal and Environmental Education Grant Program](#)), are key to promoting stewardship of the urban forest by neighborhood residents.



Mature trees, perhaps in decline, at the intersection of Love Lane and Waverly Street

An urban tree survey and assessment is necessary to better understand the urban forest of the Northeast neighborhood, and as a starting point to take a proactive approach to maintaining and strengthening the neighborhood's trees. According to State officials, the City does not have a tree survey although one is required. A Northeast Neighborhood grassroots-led tree survey and assessment would be an important precedent for the City, starting a citywide survey and assessment effort. Resources such as the expertise of the City Forester and the State's Urban Forestry Coordinator would be key to training community members in conducting such a survey, and most critically, developing programs and efforts to strengthen the urban forest once a survey and assessment have been conducted.

Community Solutions hopes to collaborate with residents, property owners (potential through an incentive program), the City, City Forester, CL&P, Connecticut Department of Energy and Environmental Protection (and its Urban Forestry Coordinator), workforce development organizations, and other parties to ensure the neighborhood's street tree canopy is stewarded and continues to provide health and quality of life benefits to residents. This can include:

- Conducting a Northeast Neighborhood street tree survey and assessment.
- Redefining criteria to identify trees for pruning and removal, and at what locations throughout the neighborhood new trees should be planted.
- Establishing a phrasing methodology for tree removal and replacement over time with new tree planting.
- Educating and empowering residents to take a stewardship approach over their own urban forest.
- Defining practices the community can follow to aid legitimate vegetation control measures by CL&P, thus reducing CL&P costs.
- Highlighting opportunities for other mutual benefits such as harvesting felled trees, vocational training and job placement,²² and small business creation.

"The value of urban trees became clear to us when we documented a 40 percent increase in summer electricity usage in a Worcester neighborhood after nearly all trees had to be removed due to the Asian longhorned beetle epidemic."²³

Additional Information and Precedents:

- Hartford is in the 90th percentile nationwide for concentrations of the following pollutants: carbon monoxide, nitrogen oxide, PM-2.5, PM-10, and volatile organic compounds. It is placed in the 70th percentile for sulfur dioxide emission, and 60th percentile for overall poor air quality.²⁴ Supporting and strengthening existing street trees in the Northeast Neighborhood will have significant positive long-term impacts on air quality and in turn overall health and well-being in the neighborhood.
- The College of Agriculture and Natural resources and School of Engineering at the University of Connecticut are collaborating on Stormwise, 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 for conducting tree surveys, which may prove to be an important resource in future efforts to strengthen the Northeast Neighborhood's urban forest.
- The *Greening Western Queens Fund* was established in 2009 to facilitate environmental projects in the western areas of Queens, New York that had been 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 maintaining and strengthening the urban forest.

19. See *Hartford's Urban Forest Effects Analysis* and a report on Hartford's Existing and Possible Tree Canopy.

20. *Right Tree, Right Place Standards* by the Connecticut Department of Energy and Environmental Protection's are part of the post here and *Sandy State Vegetation Control Taskforce Final Report*.

21. *American Community Survey 2006-2010* by the United States Census Bureau.

22. The United States Department of Labor through its Job Corps Program offers *airid training in Urban Forestry* as part of its Renewable Resources and Energy Career Pathway, and states that Urban Forestry professionals can expect to earn \$23,000-\$49,000 per year.

23. A quote from Massachusetts Department of Conservation and Recreation Commissioner Jack Murray in *Urban Tree Planting 10 Redefine Energy Use*, eocRI New April 2014.

24. *Scorecard Data Sources*.



Well maintained residential properties and sidewalk in the Northeast Neighborhood. In addition to this report's recommendations, including those described on the opposite page, it is important to note and promote efforts to improve and maintain the housing stock in the Northeast Neighborhood.

OTHER OPPORTUNITIES

There are several other important opportunities that can meaningfully contribute to overall health and well-being in the Northeast Neighborhood, notably efforts to protect Park River regional watershed, which extends across the metropolitan area of Hartford, and the smaller Gully Brook basin, which flows through a section of Keney Park. Given that these opportunities are effectively led by other parties or do not specifically target the Northeast Neighborhood, Community Solutions is not highlighting them as core components of this report. However, Community Solutions continues to support and participate in these efforts as they contribute to creating a healthier Northeast Neighborhood. Other health promoting policy initiatives underway that will benefit the Northeast Neighborhood will also remain in Community Solutions' focus. They include the following:

Air Quality

The potential for improving local air quality through the relocation of a privately owned and operated bus depot currently located on Main Street in the Northeast Neighborhood. Based on discussions with the City of Hartford it seems 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 Neighborhood based alliance of stakeholders may be well positioned to advance high level discussions on the potential for green infrastructure citywide. However, such an effort would not focus solely on the Northeast Neighborhood and is not therefore a targeted opportunity as part of this report. The Metropolitan District Commission (MDC), an inter-municipal organization 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 in parts of the City - an important move towards keeping Connecticut's waterways clean. As part of this effort the MDC could benefit from green infrastructure improvements, especially related to large open spaces such as Keney Park. Unfortunately, Hartford has no Parks Department and the Department of Public Works (DPW) does not have funding available for the promotion of additional vegetated areas. As a result, there are organizational impediments to the promotion of green infrastructure in Hartford.

However, through several other opportunities mentioned in this report (such as Strengthening the Urban Canopy and Vacant Lot Reactivation), the Northeast Neighborhood has the ability to promote green infrastructure locally and reduce its own stormwater volumes.

It is important to note the City'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 best practice standards for stormwater.

Public Transportation Plan

Community Solutions' organizing work in the Northeast Neighborhood and research conducted by the Conway School of Landscape Design confirm that there are significant gaps in public transportation service throughout the neighborhood. Fortunately, the Connecticut Department of Transportation and the Capitol Region Council of Governments are preparing to initiate a planning effort that will result in changes to local bus routes. There is an opportunity for a citywide coalition of stakeholders to impact this planning process to ensure public transportation that best serves residents. Given such an opportunity does not focus solely on the Northeast Neighborhood, Community Solutions is not targeting this effort as part of this report.

CONCLUSIONS

This report outlines several distinct opportunities that can contribute to a new narrative of hope and increase health, safety, employment, prosperity, and overall well-being for the Northeast Neighborhood. While each of these opportunities can have positive impact on the neighborhood, if combined they can have an even greater impact. The specific opportunities are:

- **Pedestrian and Bicyclist Safety:** leveraging local and regional planning support towards securing federal investments in safer roadway and sidewalk conditions throughout the neighborhood. The intent is that planning and implementation will provide employment and training opportunities for the Northeast Neighborhood residents.
- **Keney Park Opportunities:** making Keney Park actively productive to benefit Northeast Neighborhood residents through:
 - **Livestock:** 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 Neighborhood based private business (perhaps cooperatively owned) that creates local Green Collar jobs. The business could provide livestock based parkland and lawn care services throughout the Capital Region.
 - **Composting:** increasing productivity of the already existing composting facilities in Keney Park. This too enables the creation of another new Northeast Neighborhood based business (this one also potentially cooperatively owned) that provides local Green Collar jobs. The new business would likely 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.
 - **Tree Harvesting:** taking advantage of urban felled trees' often overlooked capacity to provide lumber for high value products. Throughout Keney Park and the entire neighborhood, indeed the City, there is a potential for sufficient felled trees to provide for a new small scale Northeast Neighborhood business. The business would 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.
 - **Access:** increasing access to and safety within Keney Park so that is will be more actively utilized by neighborhood residents.
- **Vacant Lot Reactivation:** transforming unused areas into true community assets by creating spaces for playing, gathering, growing food and street trees, and greening the Northeast Neighborhood. Quality public spaces will increase activity levels throughout the neighborhood and promote a safer and healthier community.
- **Strengthening the Urban Canopy:** maintaining, strengthening, and expanding the existing urban forest of the Northeast Neighborhood so that it can continue to serve the neighborhood and provide reduced energy consumption, improved air quality, overall health and well-being, and aesthetic appeal.

This report and its recommendations are the outcome of a community led process. The process is outlined in the full Health Impact Assessment Report which is available digitally through the [Health Impact Project](#).

Although Hope is a fictitious character living in Hartford's Northeast Neighborhood, the challenges she faces in her community are all too real. Hope is fortunate, however, as opportunities in Northeast Neighborhood are about to create a new reality.

Imagine

a future when Hope walks her son to school in the morning. They cross a calm street at a crosswalk featuring bulb-outs to shorten roadway crossing distance, and pass by their garden plot on the next block. After kissing him goodbye for the day she walks to work. Hope is an administrative manager and partner in *Four Legged*, a cooperatively owned business that provides lawn care throughout the region. She already had her early phone call with the herder in charge of the early morning shift, reminding him that today's educational agenda includes teaching the herding trainees to identify and tag at-risk trees. They discussed how to file the report that requests an inspection by their sister company, *Our Lumber*. Her husband is a woodshop craftsperson and teacher with *Our Lumber*, a cooperatively owned provider of tree care and lumber milling services that also manufactures specialty furniture and custom cabinetry. The street she walks along has some young trees on it, recently transplanted from one of the *Our Lumber* nurseries in Keney Park.

Hope arrives at her office located at the former Swift Factory, and looks out at the community garden that stretches between her window and the Five Corner intersection. She wonders if the tomatoes would be doing so well without the compost made at *Keney-Cycle*, the company her cousin works with as a compost vendor (and offers Northeast Neighborhood based clients 50% discount). She has lunch with one of the new Urban Forestry Trainees of *Our Lumber*. The trainee boasts that he was the first to identify the tree they felled yesterday as not suitable for milling. Once the tree dies he will learn how to chip and pelletize it for winter heating at the Swift Factory rooftop greenhouse. After lunch Hope debriefs a colleague who just returned from a meeting with a Springfield, Massachusetts college facilities manager. She is very curious to know whether *Four Legged* just secured its first out-of-state client...

As Hope leaves work for the day to pick her son up from school she remembers to swing by *Our Lumber's* furniture shop to select a rocking chair as a birthday present for her mother. Because she lives in the neighborhood she will get free delivery by the bicycle powered trailers that *Keney-Cycle* uses to collect compostables throughout the Hartford area. Delivery will take place this coming weekend just in time for the birthday party. Before she and her son get home they make a stop at their garden plot. She wants to make sure he doesn't miss storytelling hour at the garden (hosted weekly by volunteer seniors) while she tends to the garden and harvests some green beans to add to their dinner plans.

Just imagine Hope's future... All the opportunities are in place to make it real!





Health Impact Assessment Advisory Committee Members:

- Brandon McGee, State Representative, 5th District, Connecticut General Assembly
- Chris Corcoran, Project Manager, Lead Action for Medicaid Primary Prevention Project & Healthy Homes Project, Connecticut Children's Medical Center
- Darlene Robertson-Childs, President, Northeast Neighborhood Revitalization Zone
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- Jim Boucher, Vice President, Capital Workforce Partners
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- Martha Page, Executive Director, Hartford Food System
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- Rauli Pina, Director, Department of Health and Human Services, City of Hartford
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- Ron Pitz, Executive Director, Knox Parks Foundation
- Shawn Wooden, President, Hartford City Council
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Thank You:

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- Tom Wortley, 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

About Michael Singer Studio

Michael Singer Studio 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. Michael Singer Studio 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.

Michael Singer's philosophy toward sculpture, architectural and landscape design, and the environmental design of spaces focuses on 4 core principles that are embodied in the Studio's work:



- **Site Specificity:** Each project is considered individually and crafted to address and interact with the site's specific program, environmental systems and social context. Michael Singer, along with the Studio's planners and designers, study each site and explore specific opportunities to reveal a site's full potential. Every project is designed and built for a specific place ensuring a unique outcome that responds to its context.
- **Ecological Regeneration:** For over 25 years Michael Singer has been a leading voice in the creation of spaces that actively regenerate the built environment. From water cleansing gardens to large scale infrastructure projects the Studio has always sought to shape environmental systems to improve ecological health, filter air and water, and create places for people to witness growth and change over time.
- **Craft and Detail:** For projects that involve the Studio in the fabrication of site specific elements each piece is hand crafted in Vermont with expert craftsmanship and detailing. Singer's team of craftsmen has been working with the Studio for decades. The Studio engages a select group of stone, metal and wood suppliers who know Michael Singer's fabrication processes and expectations intimately.
- **Interdisciplinary Approach:** Singer's approach to projects often includes a wide range of professionals to engage in a collaborative design process. The creation of sculptural gardens calls for biologists, masons, structural engineers, water quality specialists, and landscape architects. Larger planning projects often take in anthropologists, urban designers, whole systems engineers, philosophers, and economists. The goal is to obtain a range of ideas and points of view that then become Singer's foundation for integrating systems and programs, creating new and refreshing spaces that are unique to their environment.