i-Tree Landscape Analysis of the Greening the Gateway Cities Program Neighborhoods of Springfield, MA

A cooperative project of the University of Massachusetts Chan School of Medicine PURCH Program, ReGreen Springfield and the Greening the Gateway Cities Program.

UMass Chan MEDICAL SCHOOL

GREENING THE GATEWAY CITIES
MA Urban Canopy Project

ReGreenSpringfield

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Background

One of the first items we learned in our information session with Dave Bloniarz, president of ReGreen Springfield, at the start of our population and community health clerkship (PCHC) is that any Springfield landowner can get a tree planted on their property for free. (All residents have to do is commit to watering the tree with 20 gallons of water every week for 2 years, which totals about $7 per year, and protect the tree from vandalism.) ReGreen Springfield's mission is to increase tree canopy coverage in Springfield. From ReGreen Springfield's website: "ReGreen Springfield has collaborated with businesses, community organizations, educational partners and government agencies to promote the reforestation of Springfield, improve growing conditions for trees and engage new allies in tree care and monitoring, education and citizen science."

Dave then introduced us to a statewide initiative, the Massachusetts Department of Conservation and Recreation (DCR) Urban and Community Forestry Program's Greening the Gateway Cities Program (GGCP). From the DCR's website: "DCR Urban and Community Forestry Greening the Gateway Cities Program (GGCP) is designed to reduce household heating and cooling energy use by increasing tree canopy cover in urban residential areas. The DCR Bureau of Forest Fire Control and Forestry Urban and Community Forestry crews, hired within local communities, plant trees in target neighborhoods to increase tree canopy cover for environmental and energy efficiency benefits. A healthy urban forest ecosystem improves the quality of the water we drink, the air we breathe, the stability of our neighborhoods, and our sense of community and individual pride."

A gateway city is defined as a midsized urban center that anchors regional economies around the state. Many gateway cities currently face social and economic challenges as a result of disappearing manufacturing jobs. These changes are reflected in Springfield's history. We learned from our PURCH coursework that Springfield was a hotbed of innovation and manufacturing in the 19th and early 20th centuries. Some notable firsts include the first use of interchangeable parts and assembly line in manufacturing (1819), the first American horseless car (1825), the mass production of vulcanized rubber (1844), and the first American gasoline-powered car (1893). Springfield played a major role in machine production; most famously, the Springfield Armory was the primary center for manufacturing of United States military firearms from 1777 until it was decommissioned in 1969. Closure of the Springfield Armory and overall decline of industry in the northeast led Springfield to undergo a decline in the second half of the 20th century. Springfield is one of 22 cities in Massachusetts in which the GGCP is currently active.

Tree Benefits

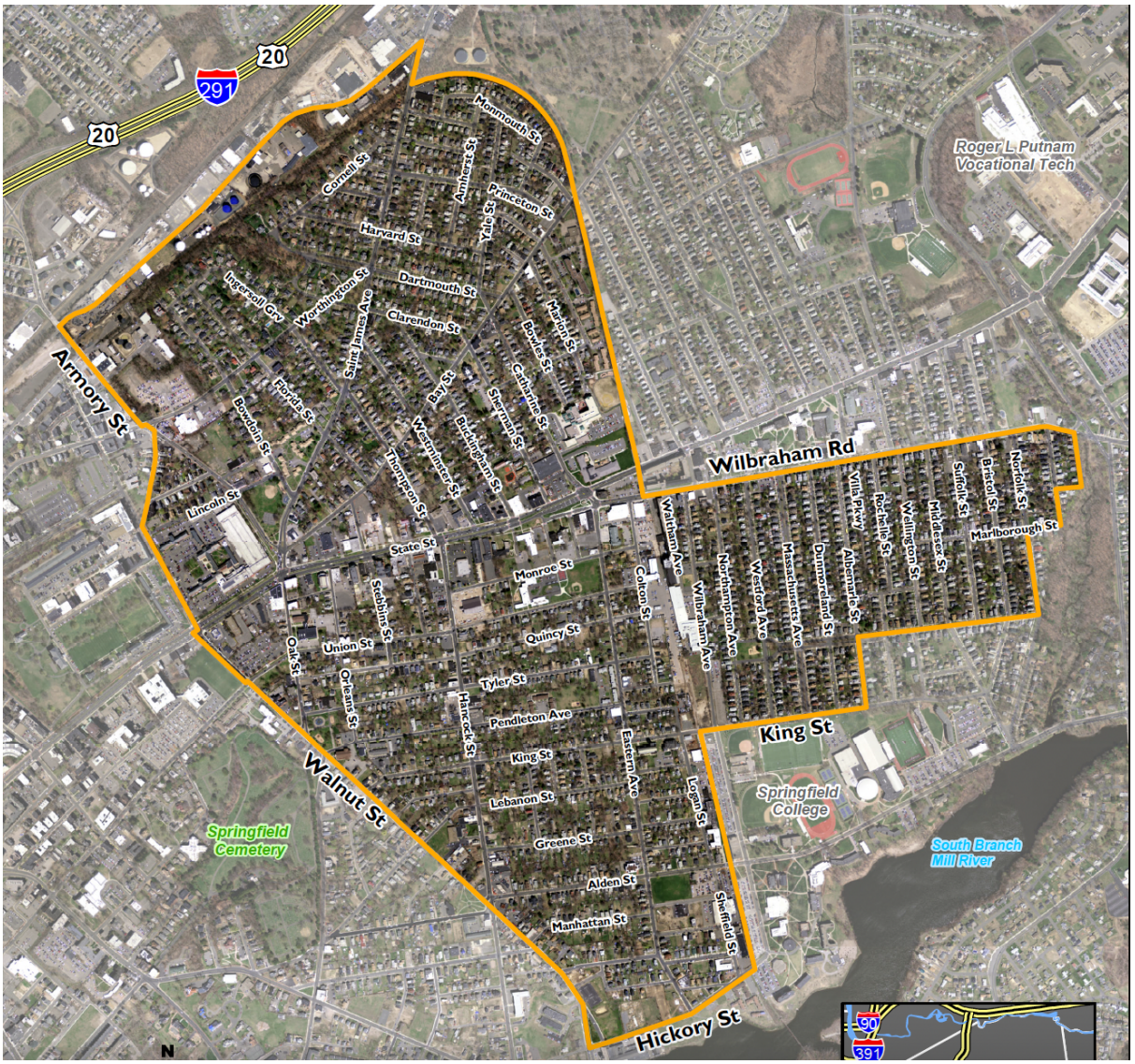
From both Dave and Alex Sherman, Springfield City Forester, we learned that trees have many environmental benefits: reduction of particulate matter in the air, slowing down rainwater during storms that would otherwise overwhelm the city's combined sewage and water system, shade homes in the summer to reduce air conditioning costs, and reduce the urban heat island effect whereby pavement, buildings, and other non-natural land cover absorb and retain heat. This effect increases energy costs (to cool homes), air pollution levels, and heat-related illness and mortality. Traditionally, storms are categorized as 1-year (i.e. one storm of a certain severity is expected every year), 5-year, 100-year, or 500-year events. Climate change, however, has caused storms to be more frequent and intense. The

importance of increased tree coverage in storing and sequestering carbon from the atmosphere to prevent further trapping of heat by greenhouse gasses in the atmosphere, as well as mitigating the short-term effects of a warmer climate cannot be overstated.
As lead forester in Springfield, Alex's mission is to get as many people interested in urban forestry for environmental equality and environmental justice reasons. As more and more people are drawn to a city, there is an increased awareness of the importance of upholding environmental equality for residents. Systemic racism and endemic poverty affect access to quality health care, stress levels, exposure to environmental toxins, access to healthy foods, and opportunities to exercise – all factors that influence chronic disease and how well it can be managed. This resonates with us PURCH students. We made it our mission to identify the highest priority neighborhood for tree planting within the defined GGCP area and engage individuals who live in and around that neighborhood to improve awareness of the many benefits of increased tree coverage.

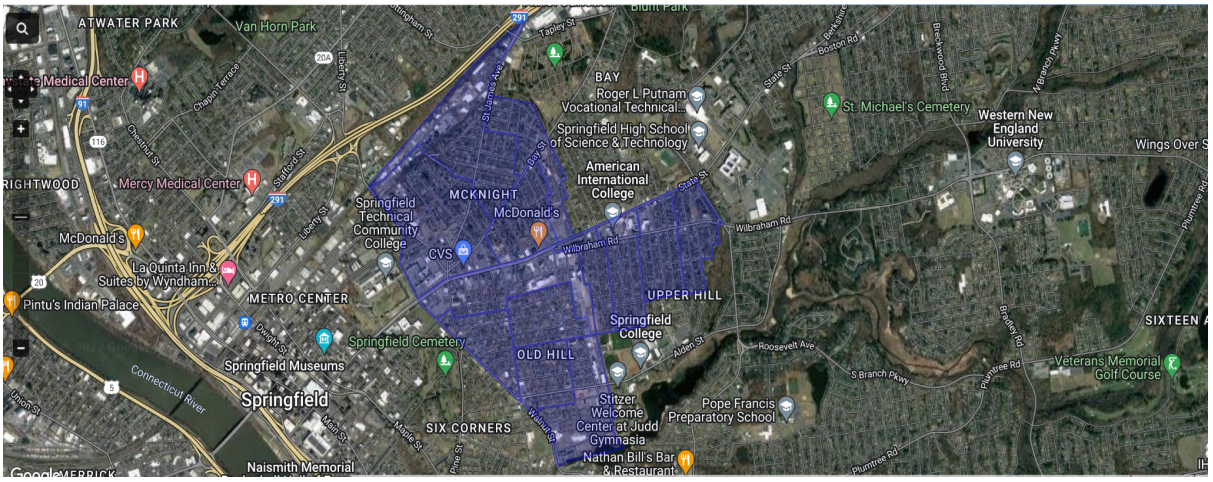
i-Tree Urban Forest Inventory & Modeling Tools
The software that we used to get information about different Springfield neighborhoods is called "i-Tree." From i-Tree's website: "i-Tree delivers current, peer-reviewed tree benefits estimation science from the USDA Forest Service to all types of users with free tools and support." Alex and the Springfield City Foresters have used i-Tree to map out 5-6k trees on school properties and 30-32k trees on streets. Including public parks, the Springfield City Foresters have mapped out nearly 50k trees in Springfield in total. The history, size/type, and condition of each tree is documented.

i-Tree Landscape
The first tool we used within i-Tree is called i-Tree Landscape, which provides information about US tree canopy and Census maps/data to identify priority planting. We first mapped the GGCP Springfield area onto i-Tree Landscape using US census block groups:

GGCP Springfield Target Area:



GGCP Springfield Area Mapped on i-Tree using Census Area Boundaries (13):



The three neighborhoods contained in the GGCP Springfield area are McKnight, Old Hill, and Upper Hill. While the US census blocks covers slightly different areas of these three

neighborhoods, the mapped region on i-Tree Landscape closely approximates the GGCP Springfield area.

Targeting Neighborhoods for Tree Planting
With the GGCP Springfield area mapped onto i-Tree Landscape, we then wanted to learn about the different census blocks in each neighborhood, and which was the highest priority for tree planting. We ran a “Poverty” scenario that was preset in i-Tree Landscape:

“Poverty” Scenario:
Tree Cover Per Capita (Low): 30%
Tree Stocking Level (Low): 30%
Population Below Poverty Line (High): 40%

Population below poverty line refers to the percentage of people living on incomes below 200% of the federally-designated poverty line.

These criteria identify census blocks that have a low tree cover per capita, a low tree stocking level (a quantitative measure of the area occupied by trees), and a high percentage of population below the poverty line. The census block that meets these criteria the closest will be the highest priority for tree planting.

Each criteria is standardized on a scale of 0 to 1, with 1 representing the selection with the highest priority. Those individual criteria scores, for each selected region, are then combined and standardized based on the defined importance (i.e. weight) of each, to produce an overall Priority Planting Index (PPI) value between 0 and 100:

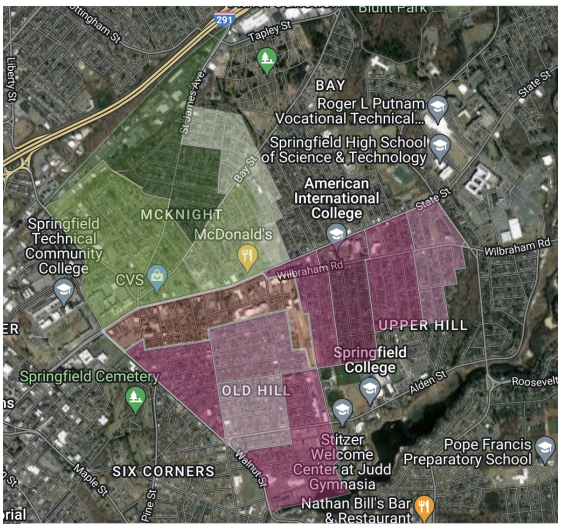
Type	ID	Highlight	Priority Index
Block Group	250138018001	☐	100
Block Group	250138017004	☐	96
Block Group	250138017003	☐	92
Block Group	250138018003	☐	92
Block Group	250138017005	☐	91
Block Group	250138018004	☐	84
Block Group	250138018002	☐	78
Block Group	250138017006	☐	72
Block Group	250138018005	☐	70
Block Group	250138013001	☐	48
Block Group	250138013002	☐	37
Block Group	250138013003	☐	24
Block Group	250138013004	☐	0

Where 0 is low priority and 100 is a high priority for planting trees based on selection criteria. Put more simply = darker pink areas = highest priority.

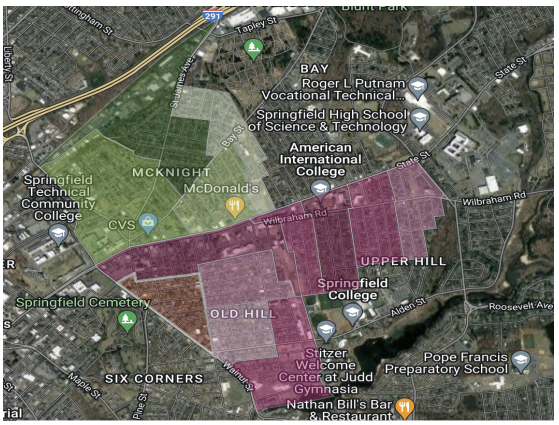
The next few pages define the borders of each census block, as well as the results of the above poverty simulation. The light brown color is the selected block group.

Old Hill Neighborhood:

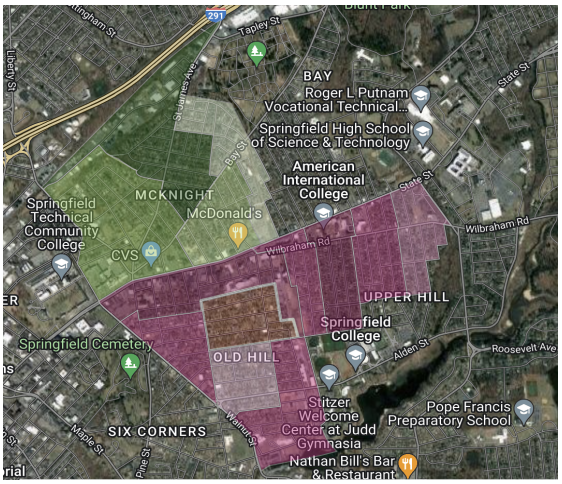
Block group 250138018001



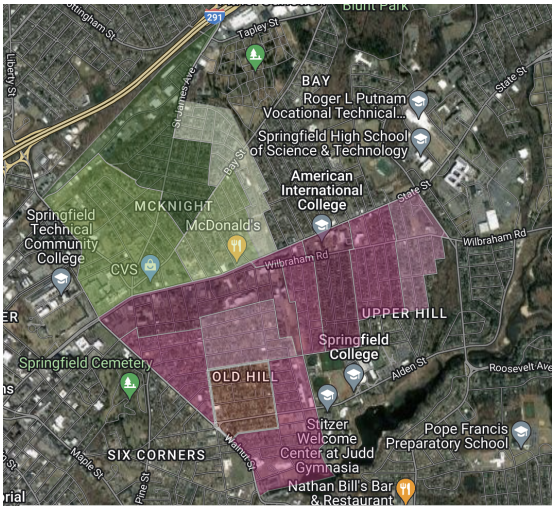
Block Group 250138018004



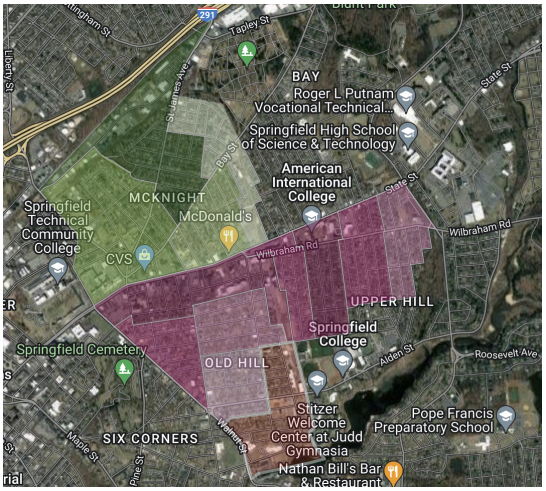
Block Group 250138018002



Block Group 250138018005

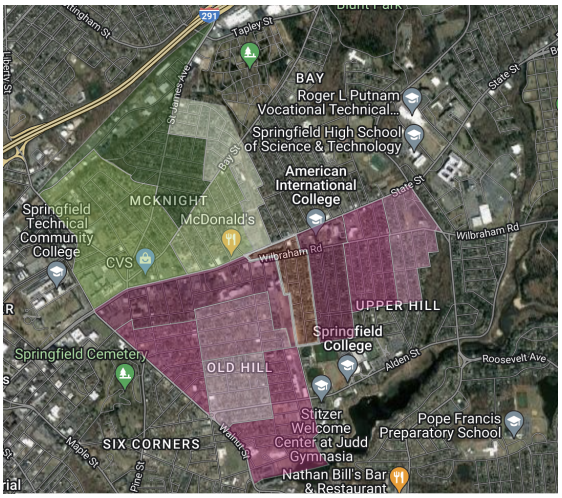


Block Group 250138018003

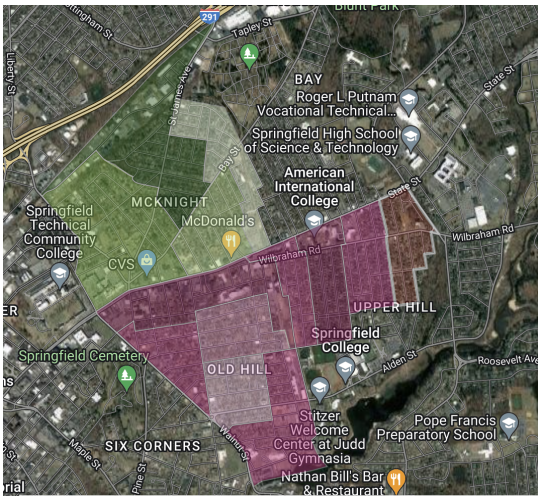


Upper Hill Neighborhood:

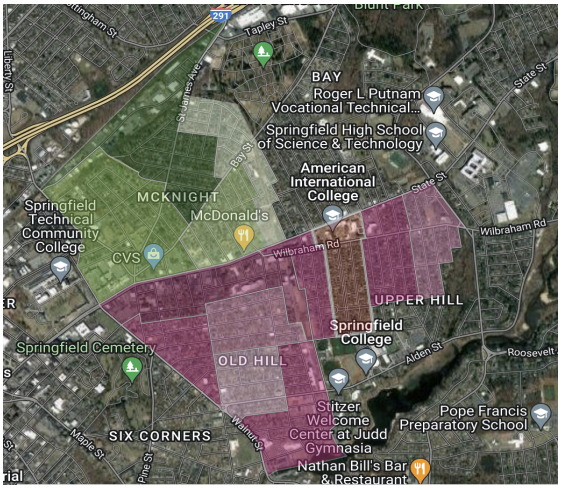
Block Group 250138017003



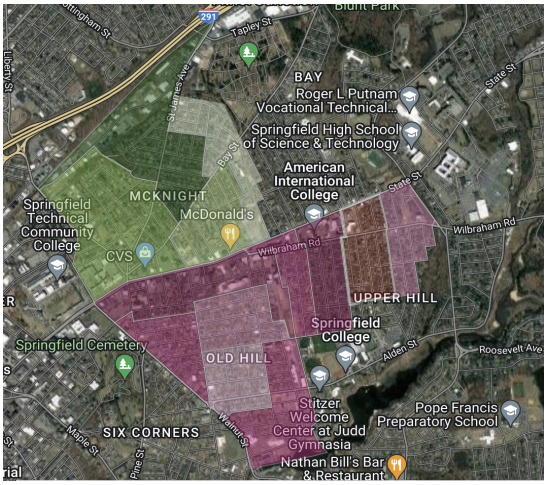
Block Group 250138017006



Block group 250138017004

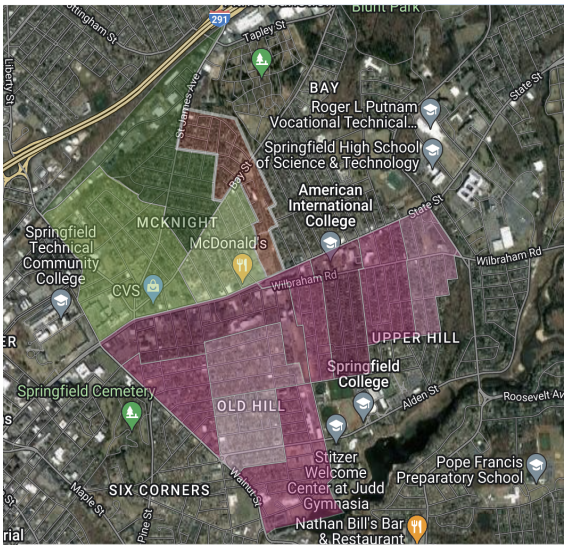


Block group 250138017005

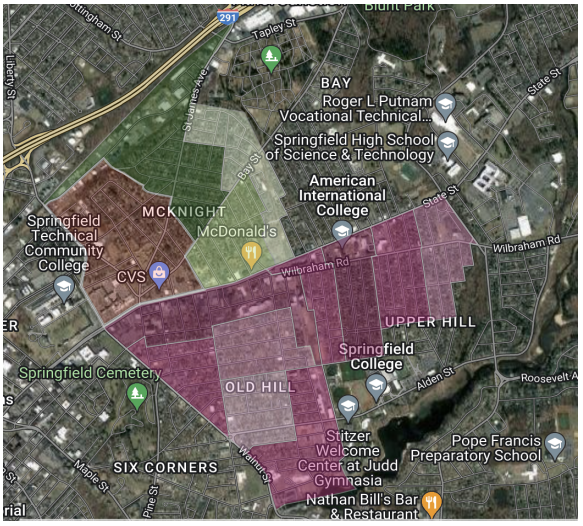


McKnight Neighborhood:

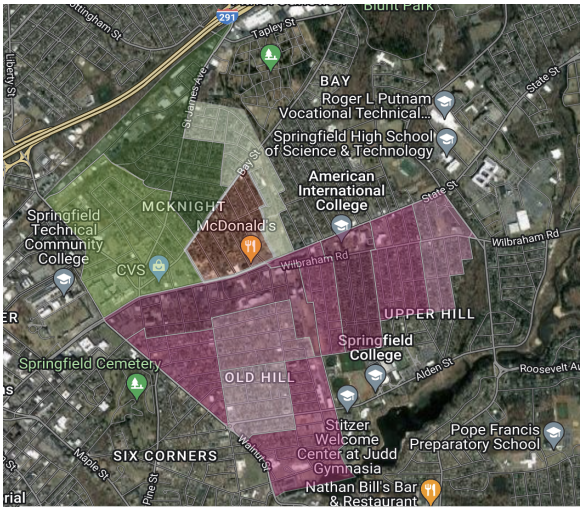
Block Group 250138013001



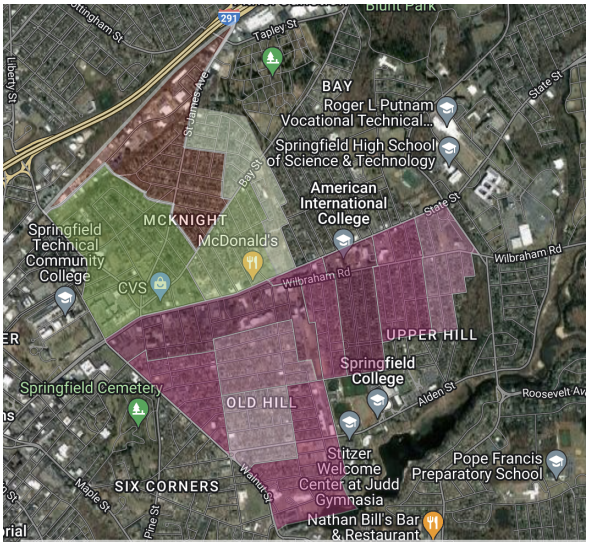
Block Group 250138013003



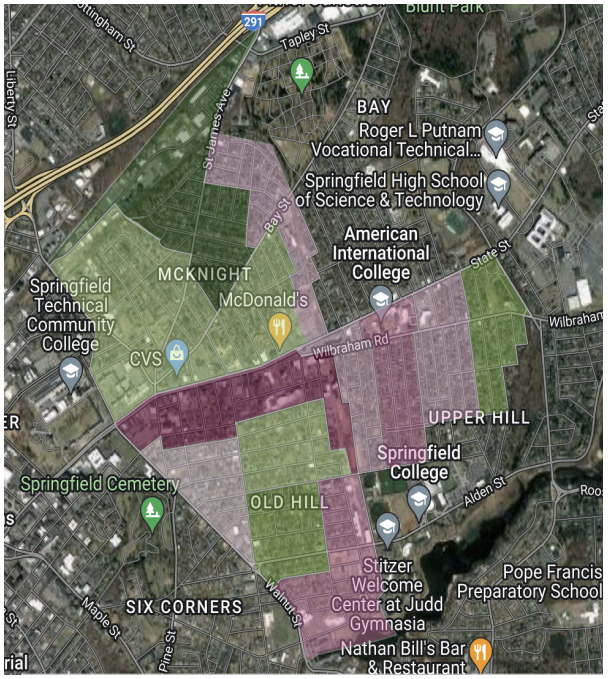
Block Group 250138013002



Block Group 250138013004



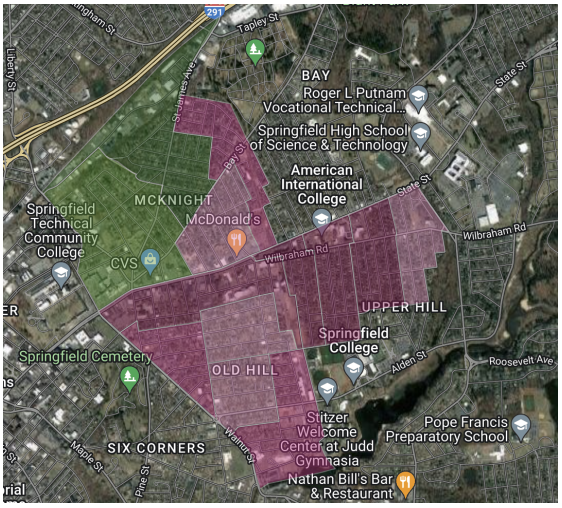
PURCH Analysis #1:
Tree Stocking Level (Low): 100%



This analysis prioritizes planting trees in neighborhoods with the **lowest area occupied by trees** in the GGCP area.

Block Group	**250138018001**		100
Block Group	250138017004		80
Block Group	250138018003		78
Block Group	250138017003		70
Block Group	250138017005		67
Block Group	250138013001		65
Block Group	250138018004		57
Block Group	250138018002		37
Block Group	250138013002		33
Block Group	250138013003		30
Block Group	250138017006		22
Block Group	250138018005		21
Block Group	250138013004		0

PURCH Analysis #2:
Canopy (Low): 100%



This analysis prioritizes planting trees in neighborhoods with the **smallest canopy area (Acres),** or leaves, branches, and stems of trees that cover the ground, in the GGCP area.

Canopy Area:
7003 = 3.7 acre
7004 = 5.0 acre
8001 = 5.1 acre

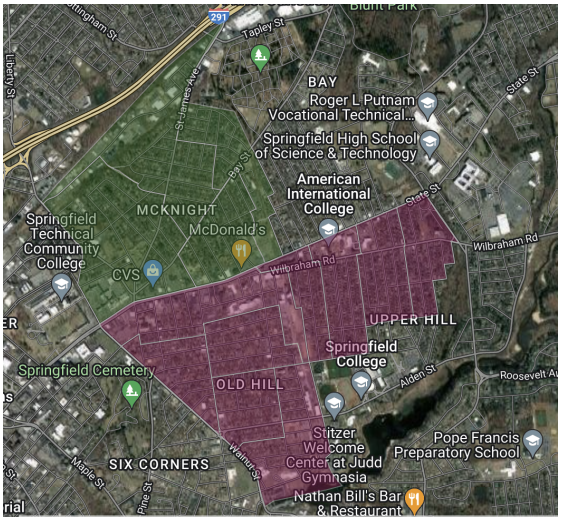
Percent Canopy:
Old Hill: 12.08%
Upper Hill: 11.97%
McKnight: 18.62%

7003 = 9.82%
7004 = 9.26%
8001 = 5.40%

We feel that it is more useful to consider percent canopy coverage rather than canopy area because the US Forest Service recommends a 40-60% coverage in urban tree canopy. Broken down by census block groups, **8001 has the lowest percent canopy of the 13 census block groups in the GGCP (5.40%).** The next lowest percent canopy reported on i-Tree Landscape is 9.26%, corresponding to census block 7004.

Block Group	250138017003	100
Block Group	250138017004	95
Block Group	**250138018001**	**95**
Block Group	250138017005	94
Block Group	250138018004	90
Block Group	250138013001	85
Block Group	250138018003	85
Block Group	250138017006	79
Block Group	250138013002	79
Block Group	250138018002	78
Block Group	250138018005	76
Block Group	250138013003	10
Block Group	250138013004	0

Custom PURCH Analysis #3:
Population Below Poverty Line (High): 100%



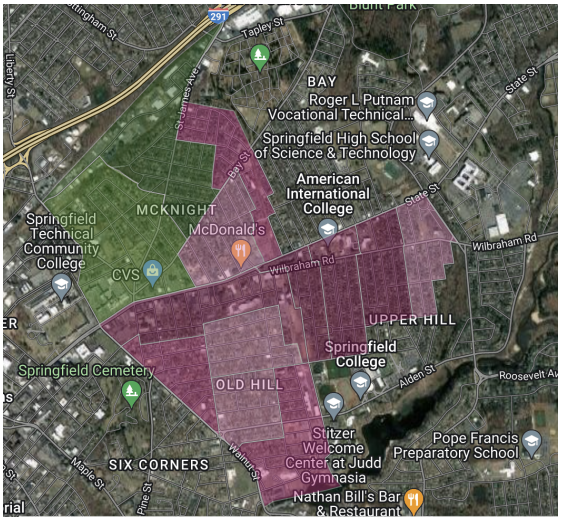
This analysis prioritizes planting trees in neighborhoods with the **greatest density of individuals living below the poverty line** in the GGCP area.

<u>Percent under poverty line:</u>
Old Hill: 34.6
Upper Hill: 34.4
McKnight: 30.3

While poverty affects individuals in the McKnight neighborhood, i-Tree Landscape considers Old Hill and Upper Hill to be relatively higher priority for tree planting due to their higher percentage of individuals living under the poverty line.

Block Group	**250138018001**		100
Block Group	250138018003		100
Block Group	250138018004		100
Block Group	250138018002		100
Block Group	250138018005		100
Block Group	250138017004		97
Block Group	250138017003		97
Block Group	250138017005		97
Block Group	250138017006		97
Block Group	250138013001		0
Block Group	250138013002		0
Block Group	250138013003		0
Block Group	250138013004		0

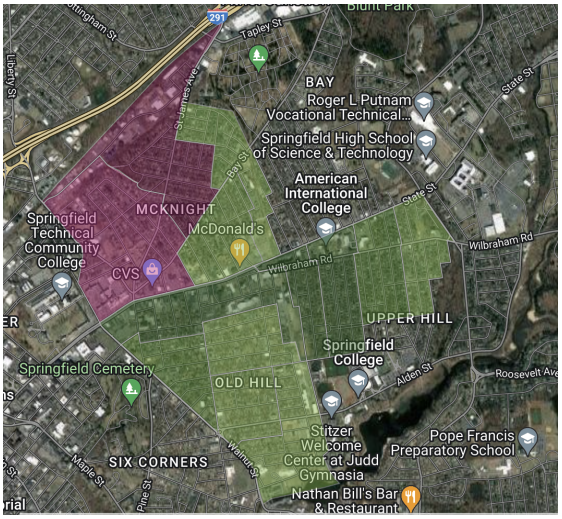
PURCH Analysis #4:
Avoided Runoff (Low): 100%



This analysis prioritizes planting trees in neighborhoods with the **greatest amount of runoff (lowest amount avoided)** in the GGCP area.

Block Group	250138017003	100
Block Group	**250138018001**	**95**
Block Group	250138017004	95
Block Group	250138017005	94
Block Group	250138018004	90
Block Group	250138018003	85
Block Group	250138013001	85
Block Group	250138017006	79
Block Group	250138013002	79
Block Group	250138018002	78
Block Group	250138018005	76
Block Group	250138013003	10
Block Group	250138013004	0

PURCH Analysis #5:
Asthma Exacerbation (High): 100%



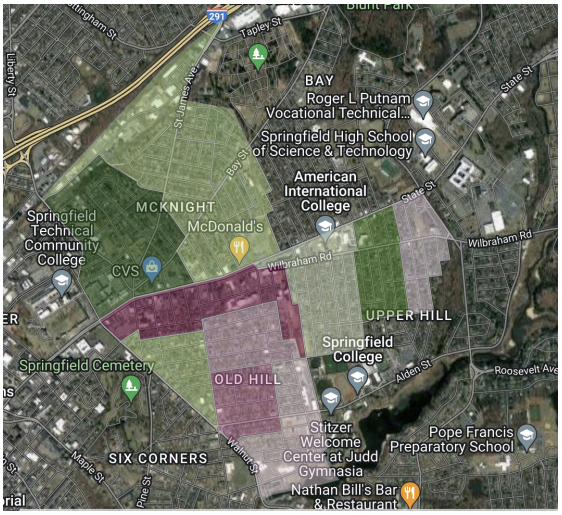
This analysis prioritizes planting trees in neighborhoods with the **highest rates of asthma exacerbation** in the GGCP area.

Nearly identical results were produced for Asthma Exacerbation Benefits from PM2.5 Pollution Removal (high) and NO2 removal (high), **suggesting that proximity to I-290 has a significant impact on high asthma rates observed in the McKnight neighborhood**. No data were available in i-Tree Landscape on Asthma Exacerbation Benefits from CO removal (high).

No data were available in i-Tree Landscape on individual SO2, NO2, PM2.5, CO, or Ozone levels.

Block Group	250138013004	100
Block Group	250138013003	87
Block Group	250138018002	23
Block Group	250138018005	23
Block Group	250138013002	20
Block Group	250138018003	17
Block Group	250138013001	17
Block Group	250138017006	17
Block Group	250138018004	10
Block Group	250138017005	7
Block Group	**250138018001**	3
Block Group	250138017004	3
Block Group	250138017003	0

PURCH Analysis #6:
Total Education Attainment (Low): 100%



This analysis prioritizes planting trees in neighborhoods with the **lowest levels of education** in the GGCP area.

Block Group	**250138018001**	100
Block Group	250138018005	79
Block Group	250138018002	66
Block Group	250138018003	57
Block Group	250138017006	50
Block Group	250138017004	45
Block Group	250138017003	44
Block Group	250138013001	36
Block Group	250138018004	34
Block Group	250138013002	32
Block Group	250138013004	30
Block Group	250138017005	14
Block Group	250138013003	0

PURCH Analysis #7:
Rented Home (Low): 100%

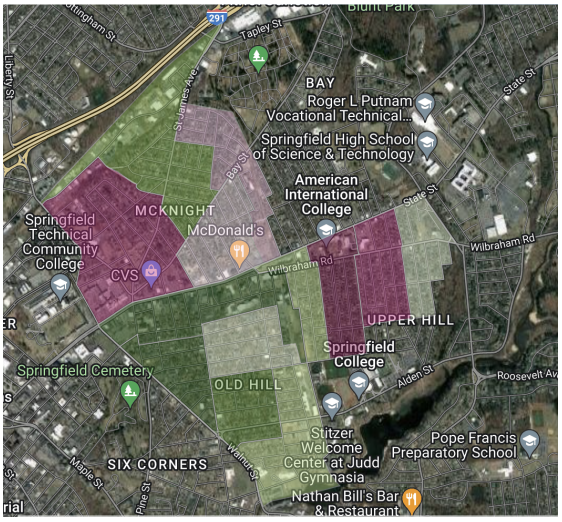
This analysis prioritizes planting trees in neighborhoods with the **lowest levels of rented homes** in the GGCP area (i.e. a value of 100 indicates a neighborhood with the lowest number of rented homes).

This is one of the challenges that our group has identified: **many individuals in lower-income areas rent their homes from an absentee landlord** who they may not not know, or who does not want to add a tree to their property. **Only those who own the land are able to give approval to have a tree planted.**

<u>Percentage Rented:</u>
Old Hill: 67.64%
Upper Hill: 65.78%
McKnight: 58.44%

Block Group	250138013004	100
Block Group	250138018005	66
Block Group	250138018003	66
Block Group	250138018004	59
Block Group	250138018002	48
Block Group	250138017006	45
Block Group	**250138018001**	43
Block Group	250138017004	42
Block Group	250138017003	25
Block Group	250138013002	25
Block Group	250138017005	16
Block Group	250138013003	15
Block Group	250138013001	0

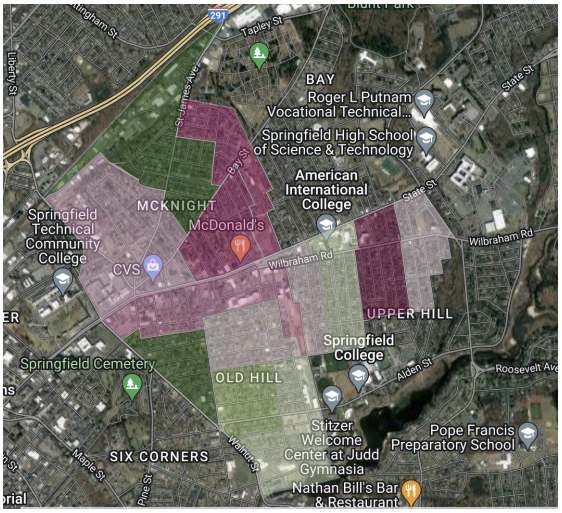
PURCH Analysis #8:
Population (High): 100%



This analysis prioritizes planting trees in neighborhoods with the **highest population** in the GGCP area.

Block Group	250138017004		100
Block Group	250138013003		92
Block Group	250138017005		86
Block Group	250138013001		64
Block Group	250138013002		58
Block Group	250138018002		43
Block Group	250138017006		42
Block Group	250138018003		37
Block Group	250138017003		28
Block Group	250138013004		22
Block Group	250138018005		11
Block Group	**250138018001**		4
Block Group	250138018004		0

PURCH Analysis #9:
Population Under 5 (High): 100%

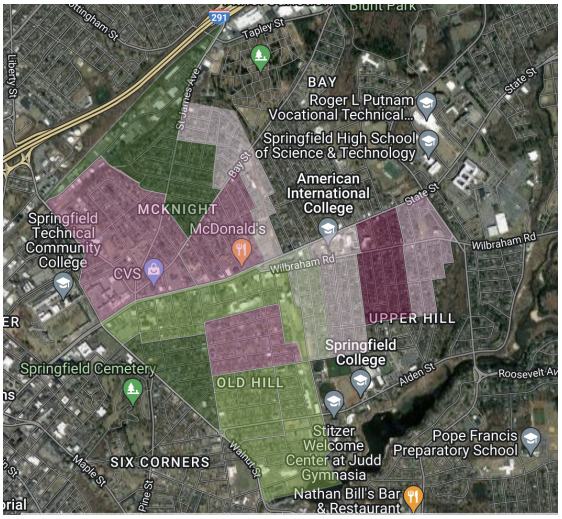


This analysis prioritizes planting trees in neighborhoods with the **highest population of individuals under 5** in the GGCP area.

Reducing particulate in the air is a primary driver of lower asthma rates in Springfield (currently #52 in the country, down from #2). **Exposure to better air quality earlier in life is linked to lower rates of respiratory and cardiovascular conditions.**

Block Group	250138017005		100
Block Group	250138013001		90
Block Group	250138013002		84
Block Group	**250138018001**		81
Block Group	250138013003		65
Block Group	250138017003		58
Block Group	250138018002		55
Block Group	250138017006		54
Block Group	250138017004		46
Block Group	250138018003		46
Block Group	250138018005		33
Block Group	250138013004		3
Block Group	250138018004		0

PURCH Analysis #10:
Population Under 18 (High): 100%



This analysis prioritizes planting trees in neighborhoods with the **highest population of individuals under 18** in the GGCP area.

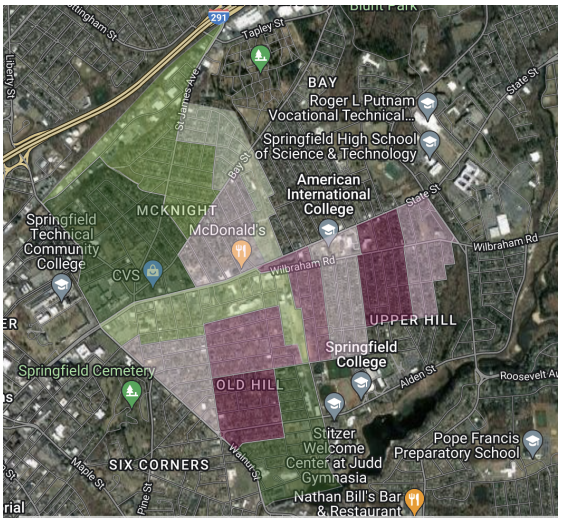
Block Group	250138017005		100
Block Group	250138018002		82
Block Group	250138013002		79
Block Group	250138013003		79
Block Group	250138017006		64
Block Group	250138013001		60
Block Group	250138017004		50
Block Group	250138017003		49
Block Group	250138018005		24
Block Group	**250138018001**		21
Block Group	250138018003		19
Block Group	250138013004		5
Block Group	250138018004		0

PURCH Analysis #11:
Median Age (High): 100%

This analysis prioritizes planting trees in neighborhoods with the **highest median age** in the GGCP area.

Block Group	250138013004		100
Block Group	250138013003		56
Block Group	250138018004		51
Block Group	250138013001		47
Block Group	250138017005		43
Block Group	250138017006		36
Block Group	250138018005		26
Block Group	250138013002		23
Block Group	**250138018001**		19
Block Group	250138018002		16
Block Group	250138017003		13
Block Group	250138018003		3
Block Group	250138017004		0

PURCH Analysis #12:
Minority Percent (High): 100%



This analysis prioritizes planting trees in neighborhoods with **greatest percentage of minority residents** in the GGCP area.

From i-Tree Landscape:

<u>Percentage Minority:</u>
Upper Hill: 81.37%
Old Hill: 76.16%
McKnight: 70.36%

Block Group	250138017005		100
Block Group	250138018005		98
Block Group	250138018002		78
Block Group	250138017003		73
Block Group	250138017006		68
Block Group	250138013002		57
Block Group	250138018004		56
Block Group	250138017004		56
Block Group	250138013001		47
Block Group	**250138018001**		38
Block Group	250138013004		23
Block Group	250138018003		3
Block Group	250138013003		0

PURCH Analysis #13:
Plantable Area (High): 100%

This analysis prioritizes planting trees in neighborhoods with the **greatest amount of plantable area** in the GGCP area.

Of note, the top-4 census block groups on this list have the highest general total area (acres):

<u>Total Area (Acres):</u>
3003: 153.1
3004: 132.1
8001: 94.1
8003: 84.1

Complicating efforts to increase tree coverage in the 8001 census block group is that **8001 has the 2nd lowest percent available for plantable space** (26.2%, second to census block 3002 (25.69%)). **8001 also has the highest percentage of impermeable space** of the 13 census block groups in the GGCP (68.07%).

Block Group	250138013003		100
Block Group	250138013004		69
Block Group	**250138018001**		40
Block Group	250138018003		40
Block Group	250138013001		29
Block Group	250138018002		19
Block Group	250138017004		18
Block Group	250138013002		16
Block Group	250138018005		13
Block Group	250138018004		13
Block Group	250138017005		12
Block Group	250138017006		9
Block Group	250138017003		0

PURCH Analysis #14:
Impervious Area (High): 100%

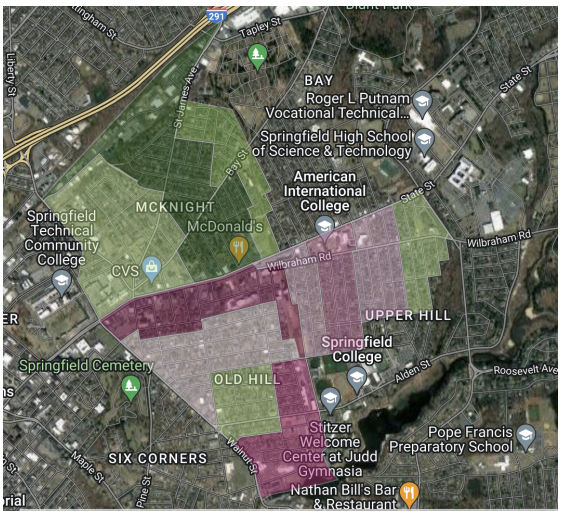
This analysis prioritizes planting trees in neighborhoods with the **greatest amount of impervious area** in the GGCP area.

This analysis was performed for a visual comparison of which neighborhoods have the most impervious area (i.e. roads, sidewalks, homes, or other structures where a tree cannot be planted.)

Similar to the previous analysis, 3003, 3004, and 8001 are top-3 for highest impervious area, partly a function of their high total area.

Block Group	250138013003		100
Block Group	250138013004		75
Block Group	**250138018001**		72
Block Group	250138018003		42
Block Group	250138013002		24
Block Group	250138017005		21
Block Group	250138013001		19
Block Group	250138017004		16
Block Group	250138018004		8
Block Group	250138018002		5
Block Group	250138017006		5
Block Group	250138018005		1
Block Group	250138017003		0

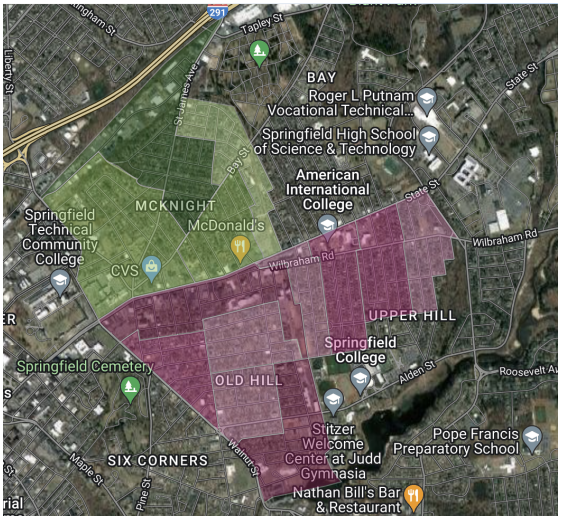
PURCH Analysis #15:
Tree Stocking Area (Low): 40%
Pop Below Poverty Line (High): 30%
Plantable Space (High): 30%



Low tree density, high population above poverty line, and high plantable space are, in our opinion, three of the most important variables to consider when evaluating neighborhoods within the GGCP for tree planting. The social determinants of health are interwoven: income and education, and access to clean air, water, and outdoor recreational areas are several variables that affect health outcomes. **Considered together, the 8001 census block is the highest priority for tree planting.**

Block Group	**250138018001**		100
Block Group	250138018003		86
Block Group	250138017004		76
Block Group	250138017005		65
Block Group	250138017003		61
Block Group	250138018004		60
Block Group	250138018002		51
Block Group	250138018005		38
Block Group	250138013003		37
Block Group	250138017006		35
Block Group	250138013001		26
Block Group	250138013004		4
Block Group	250138013002		0

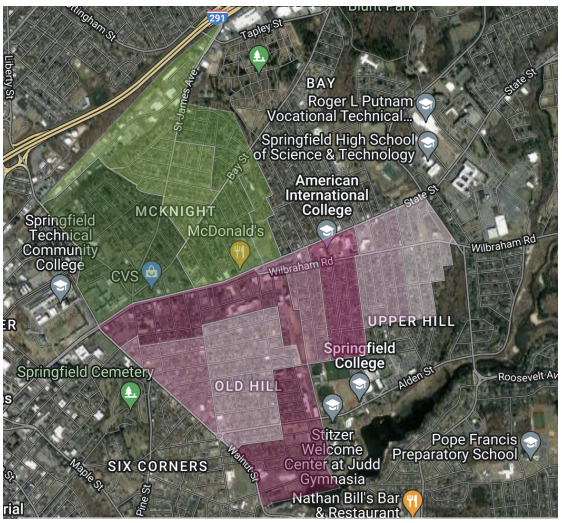
PURCH Analysis #16:
Canopy (Low): 40%
Pop. Below Poverty Line (High): 30%
Plantable Space (High): 30%



This analysis is identical to the previous one except canopy replaced tree stocking level. **The 8001 census block remains the highest priority for tree planting.**

Block Group	**250138018001**		**100**
Block Group	250138018003		94
Block Group	250138017004		87
Block Group	250138018004		83
Block Group	250138017005		83
Block Group	250138017003		81
Block Group	250138018002		78
Block Group	250138018005		73
Block Group	250138017006		72
Block Group	250138013001		37
Block Group	250138013002		26
Block Group	250138013003		22
Block Group	250138013004		0

PURCH Analysis #17:
Tree Stocking Area (Low): 40%
Pop. Below Poverty Line (High): 30%
Rented Home (Low): 30%



This final analysis is similar to the previous two, however, we have replaced plantable space with a low number of rented homes. Only property owners are able to make decisions about planting trees on private property.

From analysis #7, we found that McKnight has the lowest percentage of rented homes in the GGCP area. Census block group 8001 was #7 on the list (i.e. middle of the pack), but Old Hill collectively has the highest percentage of rented homes. When considered with high percentage of individuals below the poverty line and low tree stocking area, **8001 remains the highest priority for tree planting.**

Block Group	**250138018001**		100
Block Group	250138018003		97
Block Group	250138017004		86
Block Group	250138018004		81
Block Group	250138017003		72
Block Group	250138017005		67
Block Group	250138018002		64
Block Group	250138018005		63
Block Group	250138017006		52
Block Group	250138013004		20
Block Group	250138013001		14
Block Group	250138013002		6
Block Group	250138013003		0

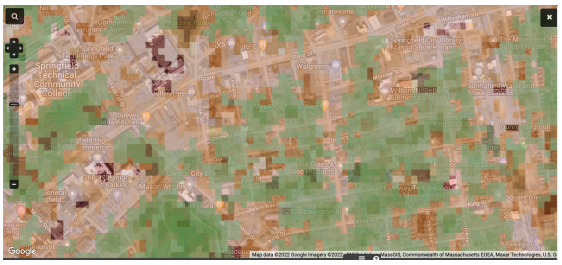


Image 1

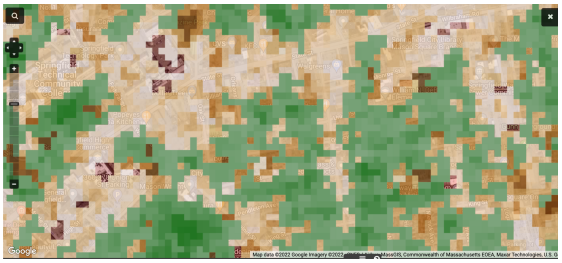


Image 2

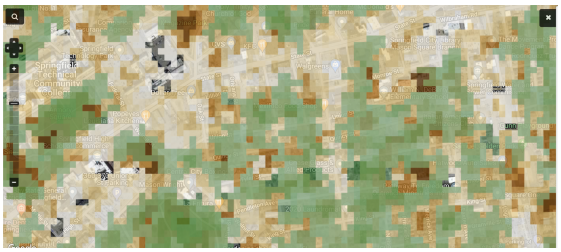


Image 3

Images 1-3 taken from i-Tree Landscape depict plantable space (brown) and space occupied by trees (green) over the 8001 census block. Darker brown indicates higher density of plantable area.

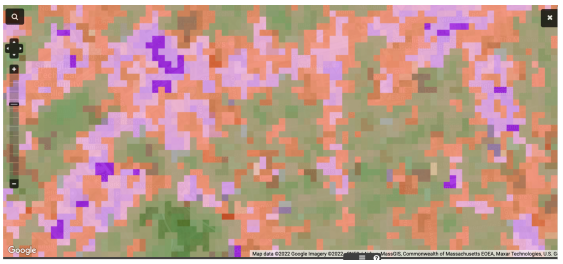


Image 4

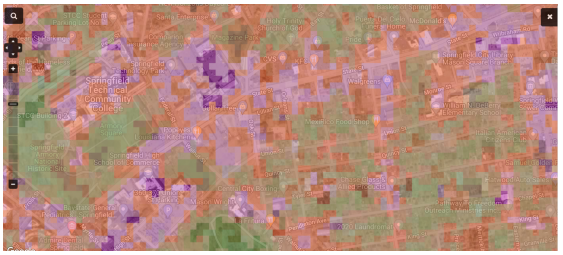


Image 5

Images 4 and 5 taken from i-Tree Landscape add impervious area (pink/purple) to the same map of the 8001 census block.

	Old Hill	Upper Hill	McKnight	Sixteen Acres
Population	4,279	4,794	4,636	22,735
% Population Under 18	32.9	31.44	30.33	21.39
% Below Poverty Line	34.6	34.4	30.3	8.2
% Minority	76.16	81.37	70.36	30.54
Area (Acres)	329.4	196.5	409.7	5,232.5
% Canopy	12.08	11.97	18.62	43.96
% Impervious	58.16	59.76	59.20	24.64
% Plantable Space	29.78	28.38	28.59	31.40

Table 1: Comparison of Old Hill, Upper Hill, McKnight, and Sixteen Acres neighborhoods in Springfield

Table 1 importantly demonstrates that decreased percent canopy is observed in neighborhoods with a higher percentage of individuals below the poverty line.

Old Hill	8001	8002	8003	8004	8005
Area (Acres)	94.1	53.4	84.1	48.9	48.9
% Canopy	5.40	18.18	9.63	13.18	21.13
% Impervious	68.07	49.40	59.17	56.61	48.6
% Plantable Space	26.2	32.3	31.1	30.8	30.89

Table 2: Comparison of Old Hill Census Block Groups

Upper Hill	7003	7004	7005	7006
Area (Acres)	37.5	54.5	55.8	48.8
% Canopy	9.82	9.26	9.75	19.17
% Impervious	62.25	59.61	63.56	53.68
% Plantable Space	27.76	30.91	26.54	28.13

Table 3: Comparison of Upper Hill Census Block Groups

McKnight	3001	3002	3003	3004
Area (Acres)	62.1	62.3	153.1	132.1
% Canopy	12.58	15.16	18.36	23.40
% Impervious	54.67	59.21	52.23	49.87
% Plantable Space	33.20	25.69	29.83	26.36

Table 4: Comparison of McKnight Census Block Groups

	Old Hill	Upper Hill	McKnight	Sixteen Acres
% Canopy	12.08	11.97	18.62	43.96
Acute Respiratory Symptoms (Cases Reduced/Yr)	1.19	0.71	2.32	68.84
Asthma Exacerbation (Cases Reduced/Yr)	0.43	0.24	0.83	24.11

Table 5: Comparison of Acute Respiratory Symptoms and Asthma Exacerbation Cases Reduced per Year by GGCP Neighborhoods and Sixteen Acres

Several data points stand out to us from tables 1-3: **5.40% canopy coverage in census block group 8001 (almost 50% lower than next lowest census block group)**, as well as general low canopy coverage in blocks 7003-7005 (all <10%). Table 4 demonstrates that as percent canopy cover increases, acute respiratory symptoms and asthma exacerbation cases prevented each year increases.

Conclusion

In summary, our i-Tree Landscape Analysis was conducted on the 13 census block groups that correspond to the GGCP Springfield area. Based on our analyses, we show that census **block group 250138018001 is the highest priority for tree planting** due to a number of criteria including highest percent below poverty line, lowest tree stocking level, and lowest total educational attainment.

As PURCH students partnering with ReGreen Springfield, our efforts during our Population and Community Health Clerkship (PCHC) focused on bringing awareness of the benefits of trees to this census block group located in the GGCP target neighborhoods. We have focused both on the financial incentives that trees provide to the community, as well as the physical and mental health benefits. When considered collectively, increased shade tree coverage brings a multitude of benefits to communities and is one way to address long-standing environmental inequalities. It is our hope that the data contained in this document will assist Springfield urban forestry efforts to increase trees cover in the highest priority areas of Springfield.