

GREENING THE GATEWAY CITIES

Planting Trees for Energy Efficiency and Environmental Justice

The Massachusetts Greening the Gateway Cities Program (GGCP) is an environmental and energy efficiency program designed to reduce household heating and cooling energy use by increasing tree canopy cover in urban residential areas in the state's Gateway Cities.

GGCP is a partnership between the Executive Office of Energy and Environmental Affairs (EEA), the Department of Conservation and Recreation (DCR) Urban & Community Forestry Program, the Department of Energy Resources (DOER), the US Forest Service, and the Executive Office of Housing and Livable Communities (EOHLC), along with Gateway Cities and local grassroots organizations. The program plants trees (ranging from 6ft to 10ft tall) with a goal of covering 5% of the target neighborhoods in new tree canopy cover. Trees are planted by DCR Bureau of Forestry and Urban & Community Forestry crews hired from local communities.

GGCP is based on current research, which includes on-the-ground tree and energy measurements in Worcester and other northern climate cities. These studies show that tree canopy brings the greatest benefits when established over an entire neighborhood area, by lowering wind speeds and reducing summertime air temperature, in addition to the benefits of direct shading. All households in a neighborhood benefit, not just the ones with trees directly adjacent.

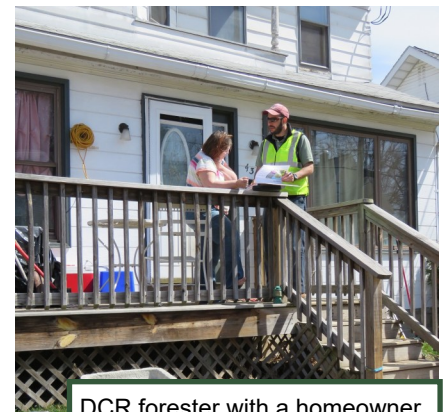
This program targets the parts of Gateway Cities that have lower tree canopy, older housing stock, higher wind speeds, and a larger renter population. In addition, plantings are concentrated in Environmental Justice neighborhoods, to benefit those most in need. Within planted areas temperature, energy use, and other information is tracked to document the energy savings new trees provide residents over time.

Neighborhood Level Canopy Cover is Important

Concentrating tree plantings in target areas maximizes energy savings. Trees near a home directly shade structures, significantly lowering surface temperatures, while trees up to 1,500 feet away from a home still provide a benefit. Program goals are to plant 5 trees per acre, which will reduce the Urban Heat Island effect, and decrease summer air temperatures in city neighborhoods through shading and increased transpiration. Additionally, in the winter months, mature tree trunks and branches help to randomize wind patterns and decrease heat loss by air infiltration in poorly insulated homes.



Chelsea



DCR forester with a homeowner



Illustration of new tree density



In high-density urban neighborhoods, planting an average of 5 trees per acre (roughly one third of a block) will provide benefits to 15-25 households, depending on building density. Most trees are planted in yards where they grow quickly with the care provided by residents. Planting this number of trees will increase canopy by an estimated 1% in eight years, and 5% in 30 years. Return on investment is realized as soon as 15 years, after which additional energy savings are realized for the life of the trees.

Benefits Beyond Energy Savings

Large-scale urban plantings provide local employment and economic activity. Tree planting is the only energy efficiency program where almost all of the investments stay in the local economy by hiring local planting crews and growing trees at local nurseries. In addition, healthy urban forest ecosystems improve the water quality of our rivers and bays, the air we breathe, the stability of our neighborhoods, and our sense of community and individual pride.

How Do I Get Involved?

To see if you currently live in one of our active Gateway City planting zones, contact your local GGCP office. If eligible, a DCR forester will come to your property and help determine the best location and species of tree for energy efficiency. Trees are provided free of charge and DCR crews will plant the trees for you. To receive a tree, you must agree to a two year watering commitment, to ensure the tree's survival.

Planting Seasons

Trees are typically planted from April-June in the spring season and September-November in the fall season. Foresters conduct site visits year-round. Call your local GGCP office to schedule an appointment. Leave your name, address (including city) and telephone number, and a forester will respond to schedule a visit.

Bureau of Forestry

Urban & Community Forestry Program

Massachusetts Department of Conservation and Recreation

66 Mill Street
Belmont, MA 02478

www.mass.gov/dcr/ucf



In Partnership with the Massachusetts Tree Wardens' & Foresters' Association, this factsheet series is funded in part by a grant from the USDA Forest Service.

The Massachusetts Department of Conservation and Recreation prohibits discrimination in employment on the basis of race, color, creed, religion, national origin, ethnicity, gender, gender identity or expression, age, sexual orientation, Vietnam Era Veteran status, or disability.

Additional Information: The GGCP is funded by EEA and DOER. GGCP is administered by the DCR Bureau of Forestry. Please contact DCR's Urban and Community Forestry Program with any questions or comments concerning the Greening the Gateway Cities Program at: 508-688-0889.



dcr  MASSACHUSETTS DEPARTMENT OF CONSERVATION AND RECREATION

Contact Your Local GGCP Office

The Greening the Gateway Cities Program is currently planting in the following locations:

Brockton
617-626-1503

Chelsea
617-626-1459

Chicopee
617-626-1473

Everett
617-626-1459

Fall River
617-626-1571

Fitchburg
617-626-1514

Haverhill
617-626-1516

Holyoke
617-626-1473

Leominster
617-626-1514

Lowell
617-626-1516

Lynn
617-626-1502

Malden
617-626-1456

New Bedford
617-626-1571

Pittsfield
617-626-1515

Quincy
617-626-1570

Revere
617-626-1459

Salem
617-626-1502

Taunton
617-626-1503

Westfield
617-626-1473

Worcester
617-626-1458

Additional GGCP trees are planted by contractors working in the cities of:

Barnstable
508-790-4924

Lawrence
978-974-0770 Ext 7016

Springfield
413-736-3111