PLANTING DESIGN FOR A RESILIENT FUTURE
We believe plants are essential to creating a healthy and resilient future through intentional design.
COMPONENTS OF AN EQUITABLE CITY

- Physical Comfort
- Psychological Health
- Healthy Food
- Clean Air & Water
- Habitat for All

BENEFITS PROVIDED BY PLANTS

- Physical Comfort
- Psychological Health
- Clean Air & Water
- Healthy Food
- Habitat for All
- Design
Environmental Services of Plants

- clean air, water, and soil
- climate regulation
- ecosystem support
- production and regulation of resources
- therapeutic effects and treatments
- recreation and education
- habitat
- equitable environments
- and many more...
Benefits of a Single Street Tree

One 20 inch diameter (roughly 33 year old) London Planetree can

- intercepts 1,526 gallons of stormwater runoff per year

- reduces atmospheric carbon by 595 pounds.
Benefits of an Urban Forest

- Provides (~)$150 in environmental benefits per tree every year
- Trees sequester carbon as they grow
- More carbon is sequestered as trees mature
- Clean polluted city air and water
- Store and use pollutants that are damaging to human health
- Increase property values
Canopy Cover and Environmental Benefits

- Current Canopy Cover (2016): 4.35 million trees and tree-like shrubs and 28% canopy cover
- Some neighborhoods with as little as 5% canopy cover
- Many aging, diseased, or damaged trees
- Canopy Goals:
  - 30% by 2037
  - 40% by 2047

Where should these new trees be planted?

Adapted from the City of Seattle’s 2011 “Getting to Zero: A Pathway to a Carbon Neutral Seattle,” p. iv
A partnership between the City of Seattle, Forterra, and community organizations

Restoring, renewing, and creating Seattle Parks by:

- removing invasive species and pollutants
- replacing diseased, dead, and dying trees
- replacing and adding additional plants and trees
- engaging community volunteers and partners
- help meet maintenance and funding needs
Every year, Seattle parks provide:

- $1 million dollars benefit in stormwater management
- $195,000 of air cleaning services
- 15% increase in adjacent property values
- connections with the natural environment
- and so much more...

Volunteers preparing to remove ivy strangling trees

Images and logo from Green Seattle Partnership, Stats from SPU and City of Seattle
Neighborhoods with the least canopy cover are:

- Lower income, greater diversity
- Adjacent to industrial areas with heavy pollutants near residential neighborhoods
- Have limited access to green space
- These neighborhoods are often not where trees are being planted

People of Georgetown have an life expectancy 8 years shorter than Seattle’s average due to environmental health factors.

Adapted from City of Seattle’s 2016 LiDAR canopy study.

From the City of Seattle’s “Equity and Environment Agenda,” p.7 and Duwamish Valley Cumulative Health Impacts Analysis: Seattle, Washington.
Hamm Creek: Point Rediscovery

- Habitat
- Ecological Restoration
- Equity
- Job Training
- Community Building
- Education

Restoring people through ecological restoration
- John Beal started to restore Hamm Creek in the 1980’s

- Hamm Creek is a salmon bearing tributary of the Duwamish River

- Pt. Rediscovery is a parcel owned by Seattle Public Utilities and funded through WaterWorks Grant Program
Edge of the pond after planting day (June 2017)
- DIRTCorps is contracted to restore the site by removing invasives and planting native plants to improve habitat.

- Volunteers and workers learn about the hydrology, native flora and fauna, and environmental stewardship strategies.
DIRT Corps
Duwamish Infrastructure Restoration Training Corps

- Provides green job training and experience in the South Seattle area, specifically for women, people of color, LGBQ+, and veterans.

- Projects focus on ecological restoration and green infrastructure, and urban forestry near the Duwamish.
SEA Streets - North Seattle
Seattle Public Utilities

- Stormwater
- Water quality
- Habitat
- Traffic Flow
- Depaving
- Community Engagement
Before:
- asphalt streets
- erosion and water quality problems in Piper’s Creek
- fast traffic flow

After
- narrowed, curved streets allow slower traffic flow
- stormwater flows into bioswales
- plants prevent erosion and clean pollutants
- improves salmon habitat in Piper’s Creek
- porous paving
- sidewalks added

2004 - right after planting
2006 - maturing vegetation
SEA Streets
Bioswale

- 99% runoff volume reduction
- 25% less expensive than traditional roadside treatment
- Increased property values
- Mature trees preserved
- Native, salmon-friendly species planted

Stats from NACTO and SPU
What makes a healing garden at a hospital different from any pleasing garden involves understanding what might help ‘transport’ people away from the medical process or the medical center. For example, knowing that some people grapple with the emotions of a difficult prognosis or treatment, a healing garden might include a spot in the garden for privacy.

- Daniel Winterbottom, UW Professor
The Healing Garding: By Friends of VA Puget Sound Fisher House and the University of Washington.

- depaved parking lot
- garden haven for families
- event space for celebrations and memorials
- group space for friends and families
- individual space for reflection and healing
- flexible in allowing for sitting, standing, or walking
- garden space
Top Left: bridge over raingarden provides a meandering path over flowing water

Bottom Left: sculptural element provides meditative area for self-reflection

Bottom Right: plan illustrates lush vegetation and a variety of spaces that replaced the underutilized parking lot
Benefits of Healing Gardens

Many types of illnesses benefit from therapeutic gardens.

Effectiveness and design can depend on:

- plants vary depending on the illness(es) treated
- water and other natural sounds
- object height and material
- meandering paths
- Sight, Sound, Touch, Smell, and Seasonality
- Interactive and scenic elements

Fundación Cosmos
Seattle P-Patch Program

Started by the Picardo family in 1973

- Food
- Equity
- Community Space
- Pollinator Habitat
- De-paving

63,511 lbs of donated produce in 2017
Bradner Gardens Park


-1994: The city planned to building housing but was resisted by the community

-Friends of Bradner Gardens Park formed, and lobbied city officials.

-Small and Simple Projects Fund grant to hire a landscape architect.

-Project was completed in 2003.
Bradner Gardens Park

“A place where people of all ages, cultures and abilities can create and learn about urban gardening and the environment in a park that is salmon-friendly and encourages water and resource conservation.”

-- Bradnergardenspark.org

Landscape Architect:
-Barker Landscape Architects

Partners:
-Seattle Parks and Recreation
-Seattle Tilth
-P-Patch Program
-City Fruit
-Mt. Baker Community Club

source: Barker Landscape Architects

http://www.bradnergardenspark.org/
Features:
- 61 garden plots
- Educational Children’s Garden
- Show gardens
- Arboretum of small street trees
- Native plant habitat
- Bee hives
- Indoor and outdoor community gathering space
Effective Design uses Plants

- serve multiple functions/address multiple challenges
- cost effective
- human and animal health, healing, and well-being
- resource production and maintenance
- respond to a changing climate and extreme weather events

Photo by Domesticus