

GROWING the Urban Forest:

Planning & Designing with Trees Today

for Sustainable Cities of Tomorrow

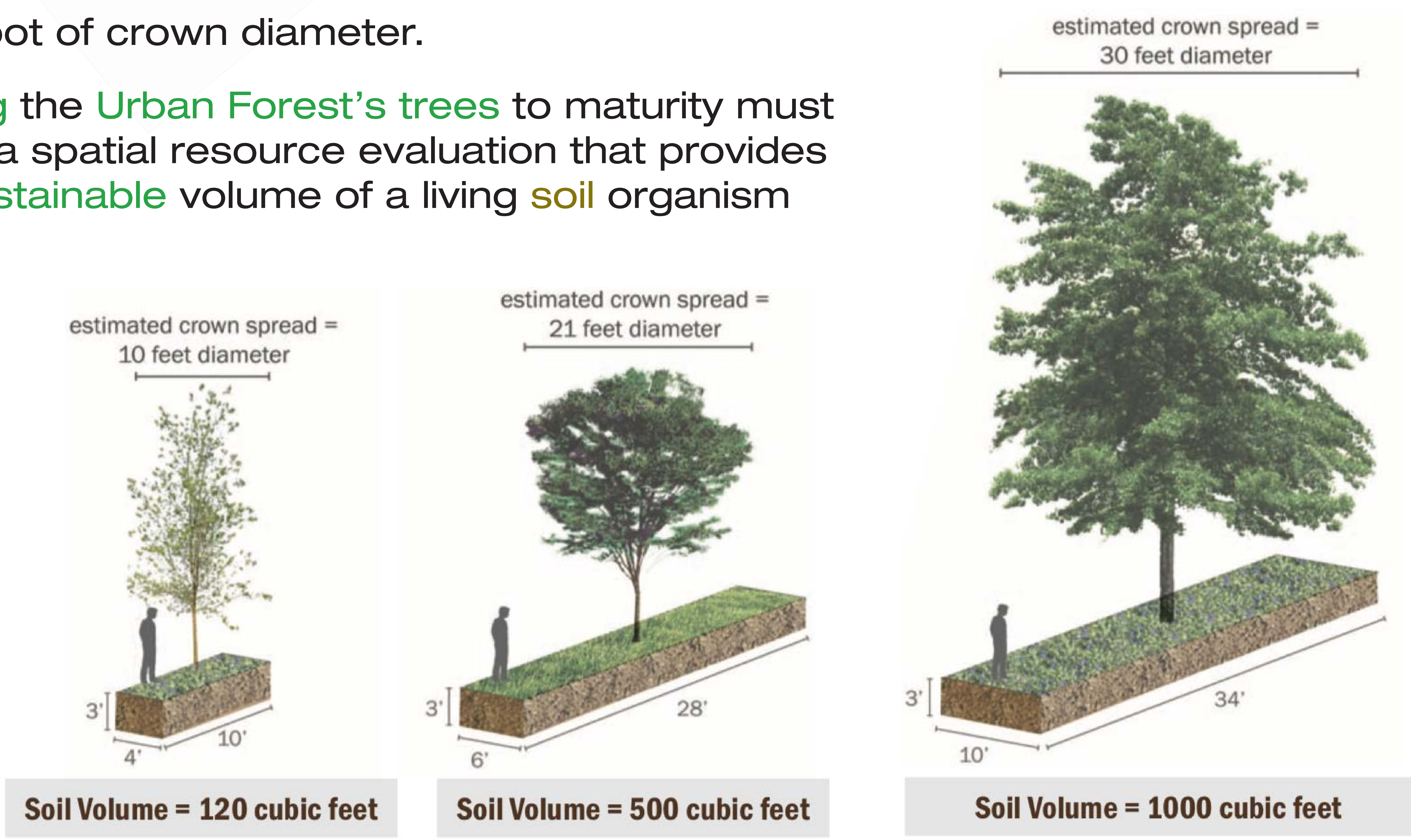
Urban Forests are ecosystems characterized by the presence of **trees** and related flora and fauna, the **soils** and landscapes they populate and the air and water resource they coexist with, all in a dynamic association with people and their human settlements.

The ever expanding urban footprint and its impact on the environment, in our cities and beyond, emphasizes the need to rethink how we plan and manage our growing urban centers.

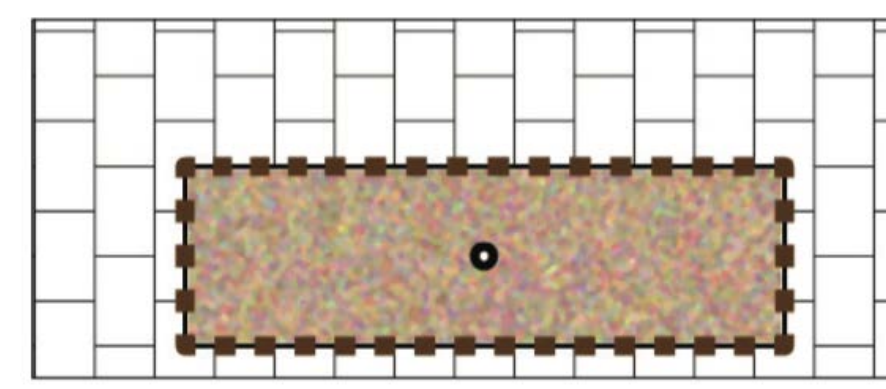
The sustained health and well-being of ALL animate and inanimate components of the urban ecosystem requires an interdisciplinary incorporation of art, science, theory and practice into all aspects of its management. **Sustainable** planning and design must focus on decreasing the extent of impervious surfaces and sealed **soil** if we are to reduce resulting environmental impacts: storm water run-off and the urban heat island effect and, at the same time, **GROW** the **Urban Forest**.

Trees require an adequate open and accessible **soil** volume to facilitate **root** expansion and thus enable **growth** into maturity, essential to realizing invaluable Ecosystem services benefits. That volume has been estimated at 1-2 cubic ft of accessible **soil** for every square foot of crown diameter.

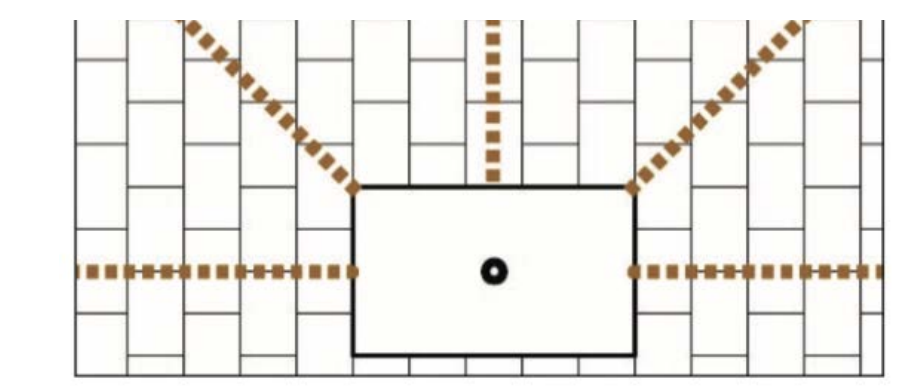
Growing the **Urban Forest's** **trees** to maturity must include a spatial resource evaluation that provides for a **sustainable** volume of a living **soil** organism



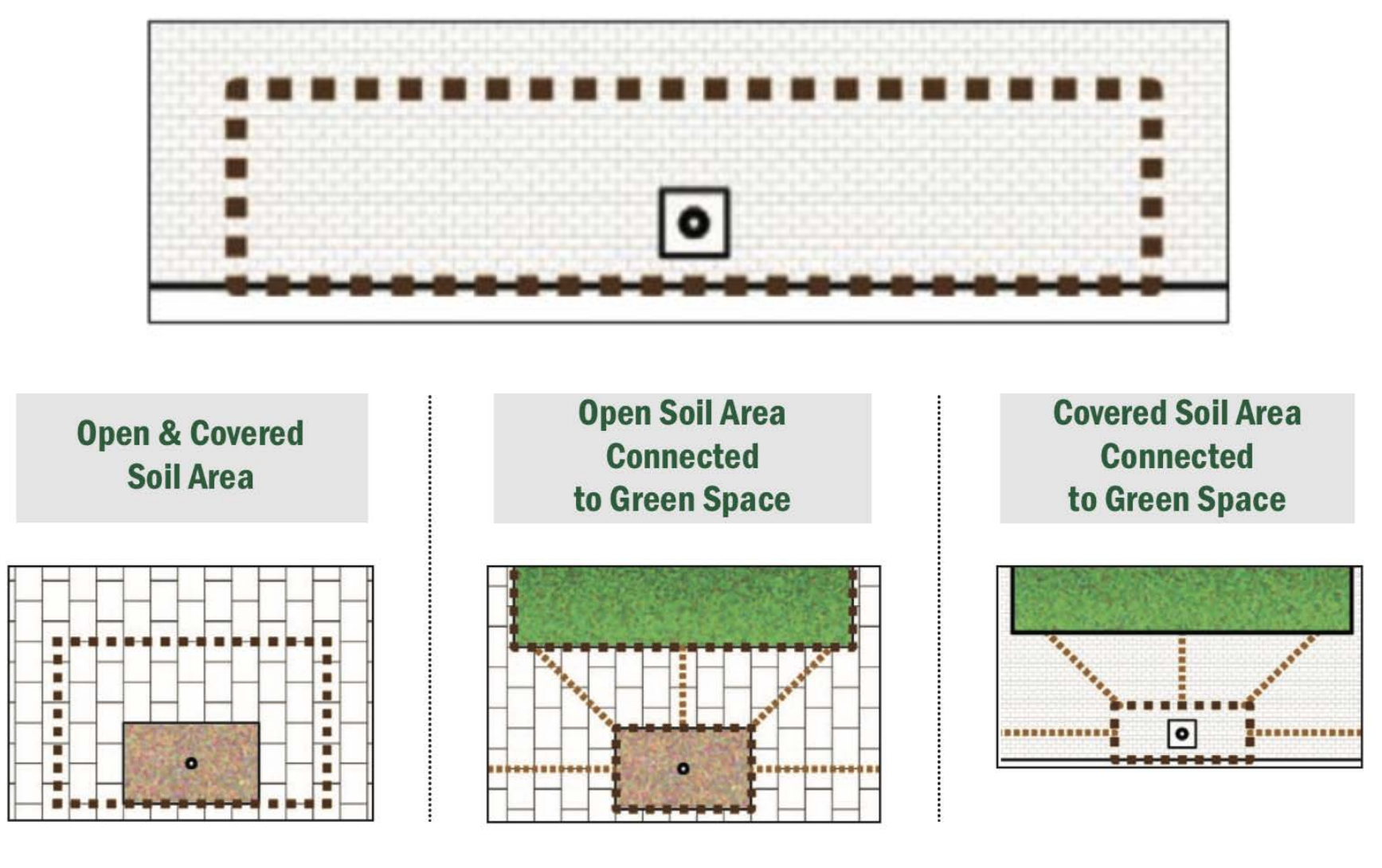
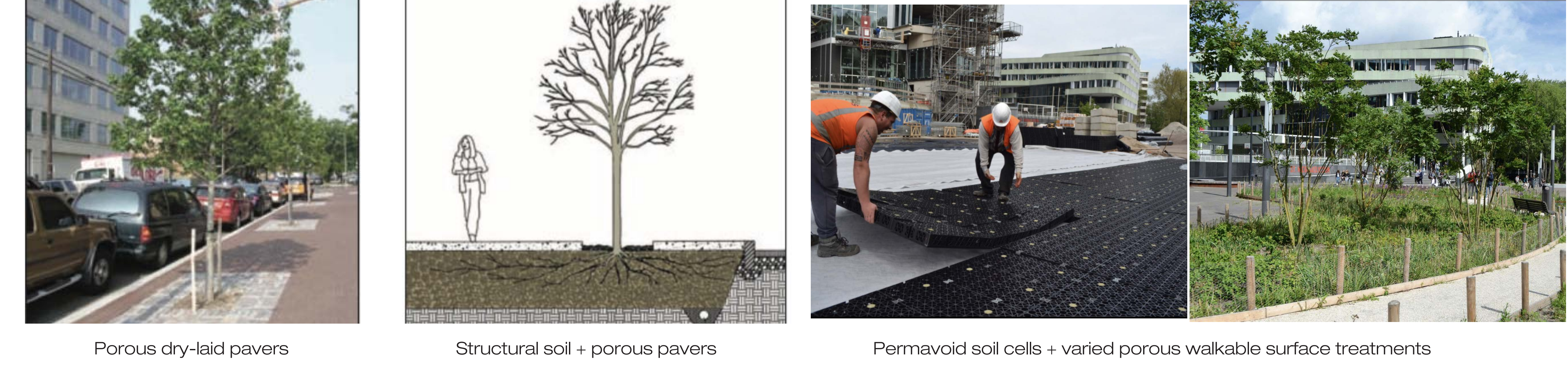
Increasing open **soil** area:



Constructing **root** paths:



Covered **soil** using porous paving in design combinations:



Alternative planting designs: cluster plantings in urban **tree** islands have been used as traffic calming measures in residential communities while providing **trees' roots** the communal space to develop essential interconnections, making better use of a larger shared **soil** volume and using less space than conventional inline plantings.

Growing a dynamic **Urban Forest** resource today can foster tomorrow's **sustainable** human settlements for the well-being of all residents of our ecosystem.

