

Lowrise Zoning Proposal

Improving livability and ecological functions
in multifamily residential zones



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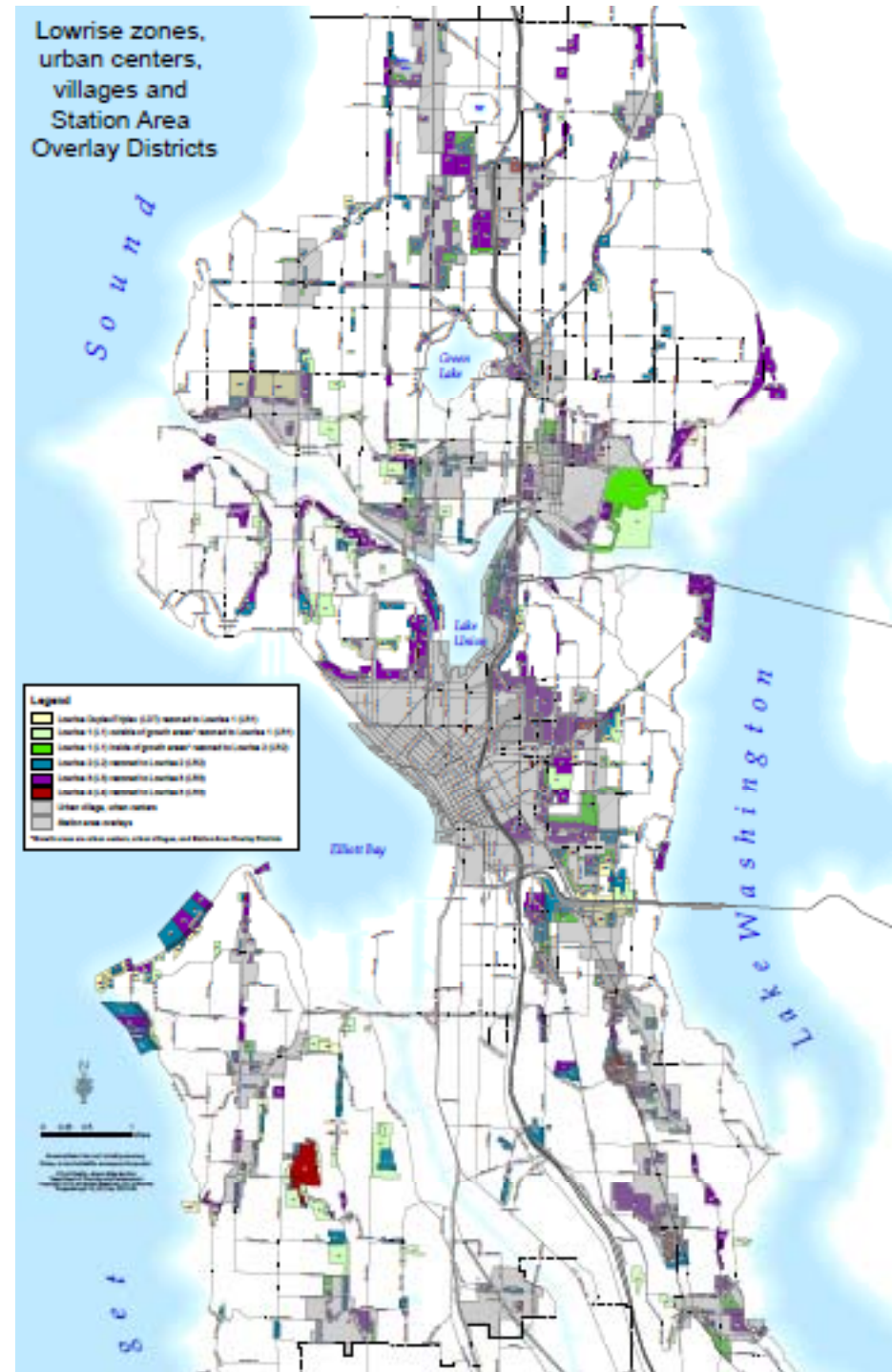
Seattle Department of Planning and Development

Seattle Tree Commission – May 5, 2010



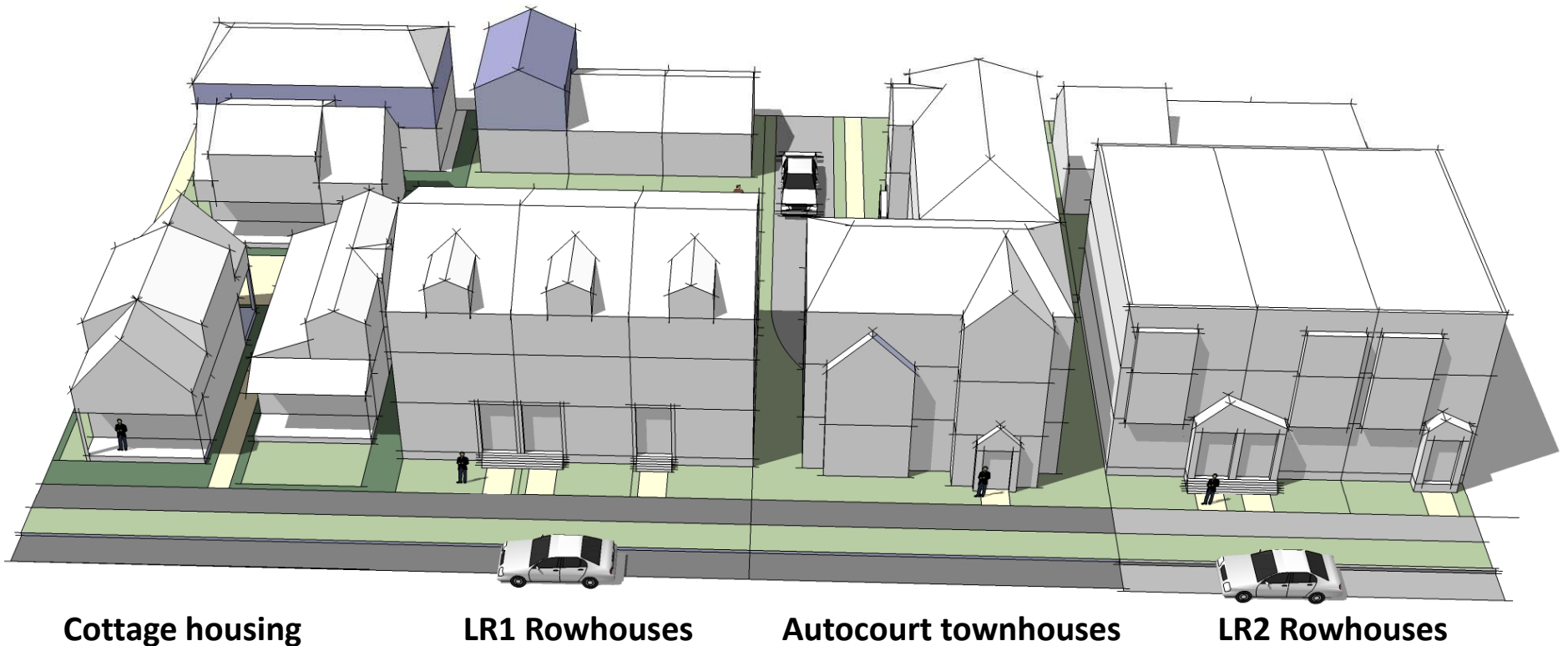
Lowrise zones

- 7% of land area in Seattle, 36% of housing units
- Crucial for city's growth management, urban village strategy
- Important location for affordable housing



Proposed code changes

- Greater flexibility → greater diversity in housing stock
- Building lot coverage is comparable (35-50%) with less space dedicated to parking and car access
- Seattle Green Factor required

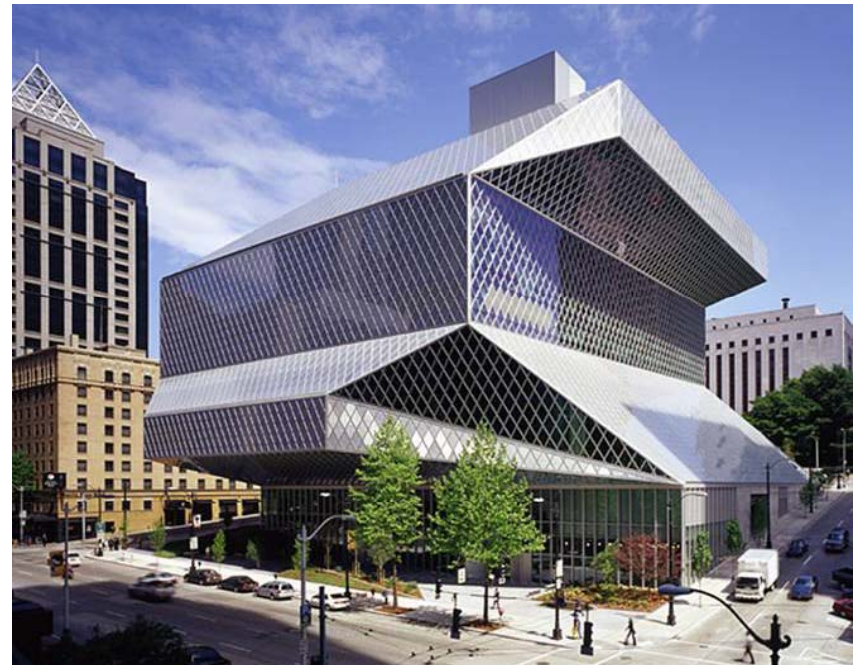


Green Factor: origins and rationale

- Address the lack of “green” in “green buildings”
- Balancing urban density and ecological function
- Increased awareness of functional landscapes and ecosystem services



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Precedent programs



Biotope Area Factor website

- Berlin: Biotope Area Factor 1997. Applied to specific neighborhoods throughout the city.
- Malmö: Green Space Factor 2001. Applied to multifamily residential districts.



GGLO

How does the Green Factor work?

- Designed to balance aesthetics and ecological functions in urban setting
- Provides weighted menu of options, sets minimum score
- Includes tree preservation, green roofs, bioretention, and permeable paving
- Incentives for layered plantings and right-of-way improvements



Score sheet

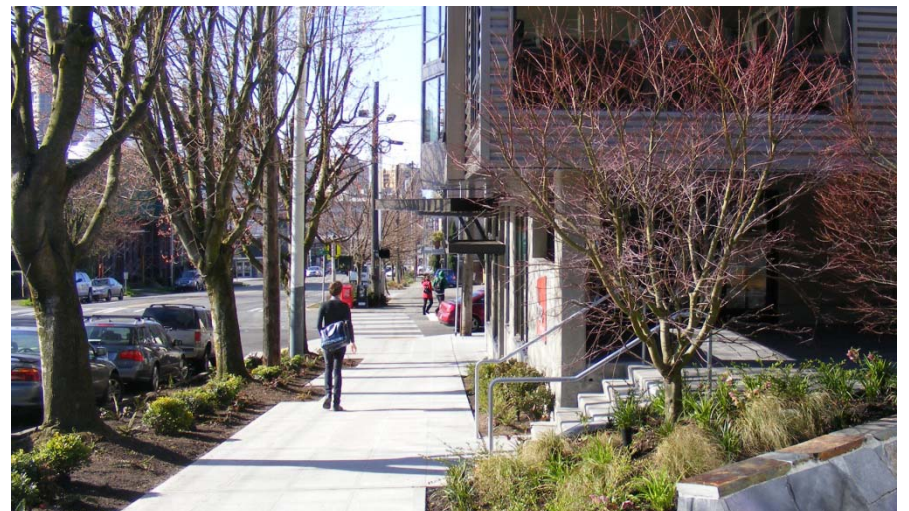
- Applicant enters proposed landscape features
- Score sheet converts each landscape feature to square footage
- Total divided by parcel size, translates to % or Green Factor score
- Trees emphasized in scoring, bonuses provided for native spp, food cultivation, visibility to the public

Project title:		SEATTLE <i>green factor</i>		
Parcel size (enter this value first) *		enter sq ft of parcel	minimum score determined by zone	
		0	SCORE	#DIV/0!
Landscape Elements**		Square Feet	Factor	Total
A Landscaped areas (select one of the following for each area)				
1	Landscaped areas with a soil depth of less than 24"	enter sq ft 0	0.1	-
2	Landscaped areas with a soil depth of 24" or greater	enter sq ft 0	0.6	-
3	Bioretention facilities	enter sq ft 0	1.0	-
B Plantings (credit for plants in landscaped areas from Section A)				
1	Mulch, ground covers, or other plants less than 2' tall at maturity	enter sq ft 0	0.1	-
2	Shrubs or perennials 2'+ at maturity - calculated at 16 sq ft per plant (typically planted no closer than 18" on center)	enter number of plants 0	0.3	-
3	Tree canopy for "small trees" in the Green Factor tree list or equivalent (canopy spread of 15') - calculated at 50 sq ft per tree	enter number of plants 0	0.3	-
4	Tree canopy for "small/medium trees" in the Green Factor tree list or equivalent (canopy spread of 20') - calculated at 100 sq ft per tree	enter number of plants 0	0.3	-
5	Tree canopy for "medium/large trees" in the Green Factor tree list or equivalent (canopy spread of 25') - calculated at 150 sq ft per tree	enter number of plants 0	0.4	-
6	Tree canopy for "large trees" in the Green Factor tree list or equivalent (canopy spread of 30') - calculated at 200 sq ft per tree	enter number of plants 0	0.4	-
7	Tree canopy for preservation of large existing trees with trunks 6"+ in diameter - calculated at 15 sq ft per inch diameter	enter inches DBH 0	0.8	-
C Green roofs				
1	Over at least 2" and less than 4" of growth medium	enter sq ft 0	0.4	-
2	Over at least 4" of growth medium	enter sq ft 0	0.7	-
D Vegetated walls				
		enter sq ft 0	0.7	-
E Approved water features				
		enter sq ft 0	0.7	-
F Permeable paving***				
1	Permeable paving over at least 6" and less than 24" of soil or gravel	enter sq ft 0	0.2	-
2	Permeable paving over at least 24" of soil or gravel	enter sq ft 0	0.5	-
G Structural soil systems***				
		enter sq ft 0	0.2	-
		sub-total of sq ft =	0	
H Bonuses				
1	Drought-tolerant or native plant species	enter sq ft 0	0.1	-
2	Landscaped areas where at least 50% of annual irrigation needs are met through the use of harvested rainwater	enter sq ft 0	0.2	-
3	Landscaping visible to passersby from adjacent public right of way or public open spaces	enter sq ft 0	0.1	-
4	Landscaping in food cultivation	enter sq ft 0	0.1	-
		Green Factor numerator =		-

* Do not count public rights-of-way in parcel size calculation.
 ** You may count landscape improvements in rights-of-way contiguous with the parcel. All landscaping on private and public land must comply with the Landscape Standards Director's Rule (DR 6-2009)
 *** Permeable paving and structural soil together may not qualify for more than one third of the Green Factor score.

Green Factor scoring priorities

- Scores based on best available science with three priorities in mind:
 - Livability – improve aesthetics of buildings and rights-of-way, use green amenities to mitigate increasing density
 - “Working landscapes” – provide habitat, reduce runoff, increase infiltration (complements stormwater regs)
 - Climate change adaptation – anticipating urban heat island effect and flooding



Trends in built Green Factor projects

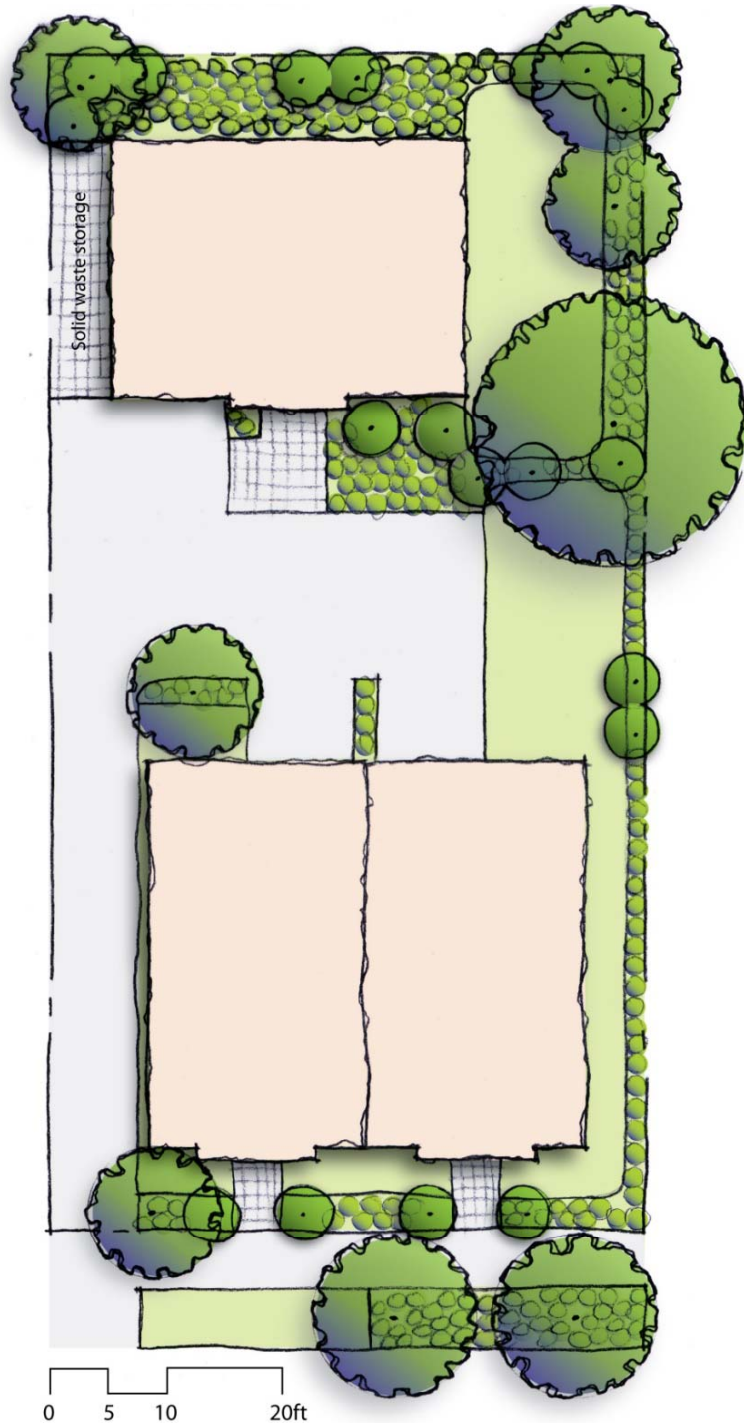


- Higher quality, better-integrated landscape design
- Maxed out plantings at grade, including trees and “understory”
- Permeable paving, green roofs, and green walls

LR2 Townhouses

Green Factor score = 0.61

5,000 sq ft parcel

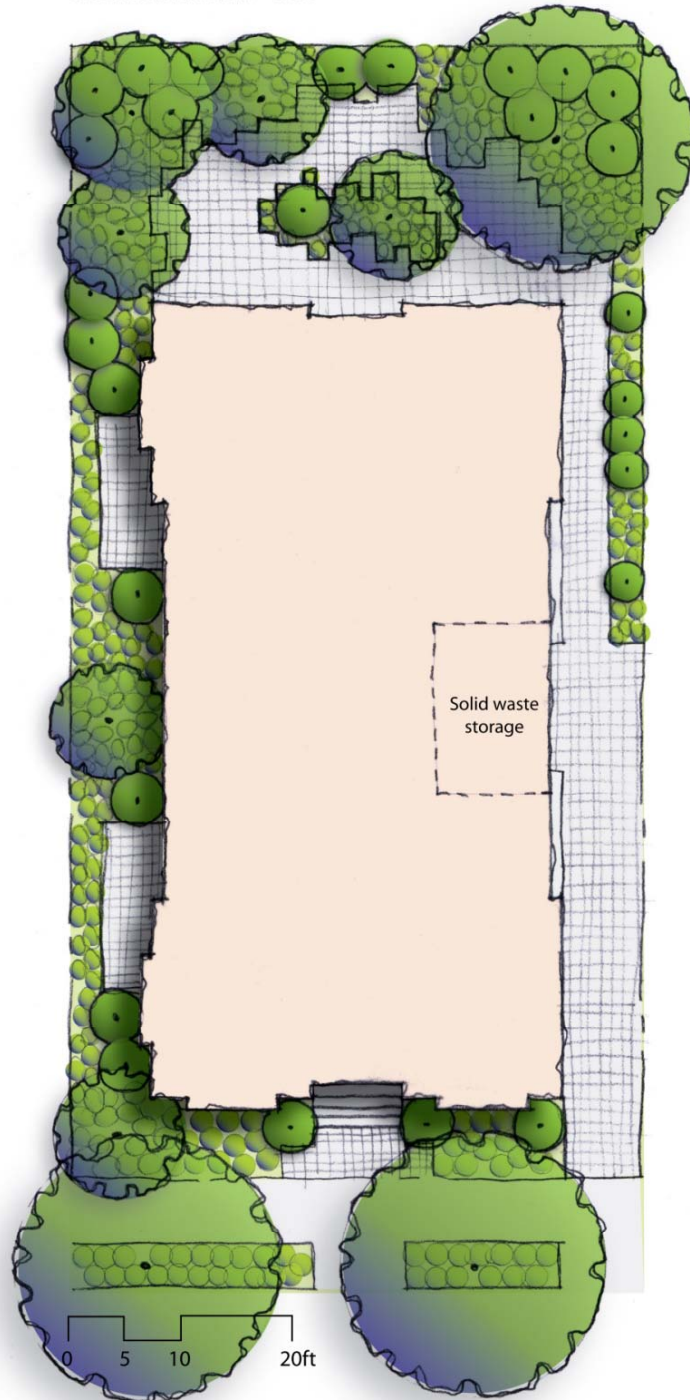


- Most lot coverage of the LR2 housing types
- 6 trees on parcel, 2 in ROW
- 2000 sq ft drought-tolerant/native landscaping
- Meets amenity space requirement, balancing usable open space w/ landscaping

LR3 Apartments

Green Factor score = 0.63

5,000 sq ft parcel



- Most lot coverage of the LR3 housing types
- 7 trees on parcel, 2 in ROW
- 2000 sq ft drought-tolerant/native landscaping
- Meets amenity space requirement, balancing usable open space w/ landscaping

How does the proposal compare with current requirements?

For a 5,000 square foot parcel...

	Current requirement	Landscaping typically provided	Proposal
Trees	1-4	2-10	8-10+
Landscaped area	900 sq ft	900-1500 sq ft	1,200-2,000 sq ft
Green Factor score	0.10 - 0.15	0.20-0.40	0.60

- Proposed Green Factor brings minimum up to what good projects are already doing, with incremental increase
- Proposal encourages landscaping at grade: a 25 sq ft planting area w/ tree is worth 4x the credit of a 25 sq ft patch of green roof and 6x the credit of a 25 sq ft patch of permeable paving

Modeling benefits

Preliminary research from University of British Columbia suggests that when applied over an urban neighborhood, Seattle Green Factor results in:



- A 13 % reduction of stormwater runoff
- A 9% reduction of energy demand
- A 12% reduction of greenhouse gases

Karen Kiest Landscape Architects

Branching out

Zone	GF score
Commercial & Neighborhood Commercial	0.30 (adopted 2006)
Midrise and Highrise Residential	0.50 (adopted 2009)
Lowrise Multifamily Residential	0.60 (at Council)
South Downtown Planning Area	0.30 (at Council)
Industrial Commercial within Urban Villages	0.30 (at Council)

- Green Factor standards are under consideration or have been adopted in Bellingham, Portland, Chicago, D.C., London...
- 2010 Planning and Analysis award from the American Society of Landscape Architects

Questions?

[www.seattle.gov/DPD/Planning/Multifamily Code Update/](http://www.seattle.gov/DPD/Planning/Multifamily_Code_Update/)
www.seattle.gov/dpd/Permits/GreenFactor

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