

TUESDAY, AUGUST 8, 2013
ISA ANNUAL INTERNATIONAL CONFERENCE AND TRADE SHOW
TORONTO, CANADA

MUNICIPAL PRUNING: SELLING THE CONCEPT IN YOUR COMMUNITY

CONCEPT FOR PRUNING YOUNG SHADE TREES IN THE NETHERLANDS

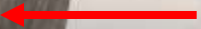
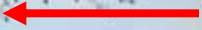
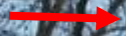


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Background

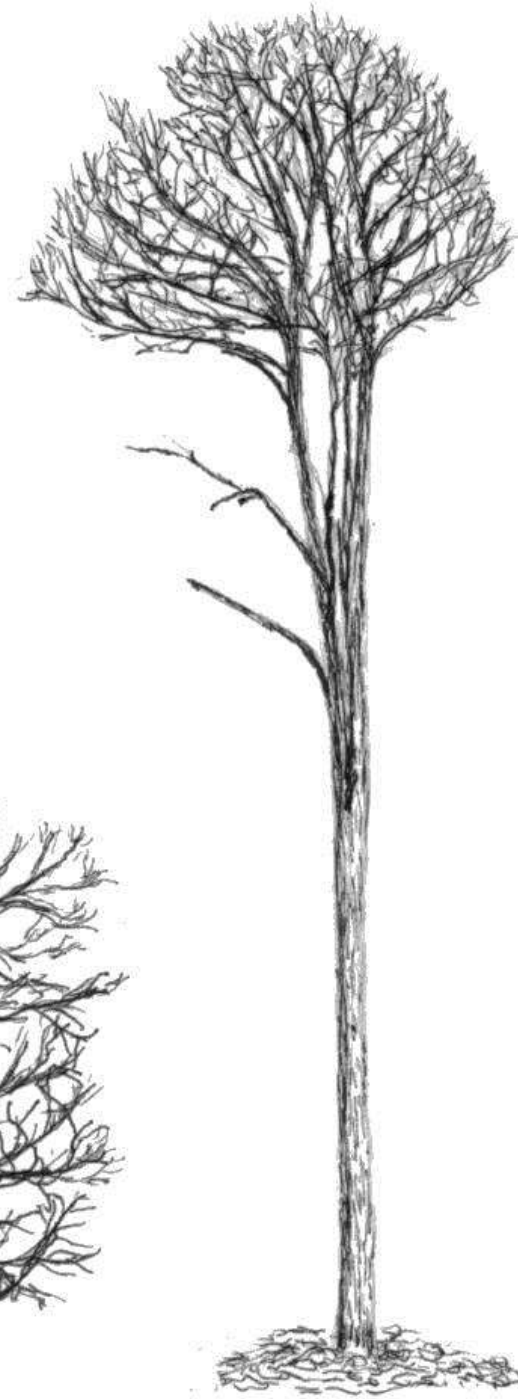
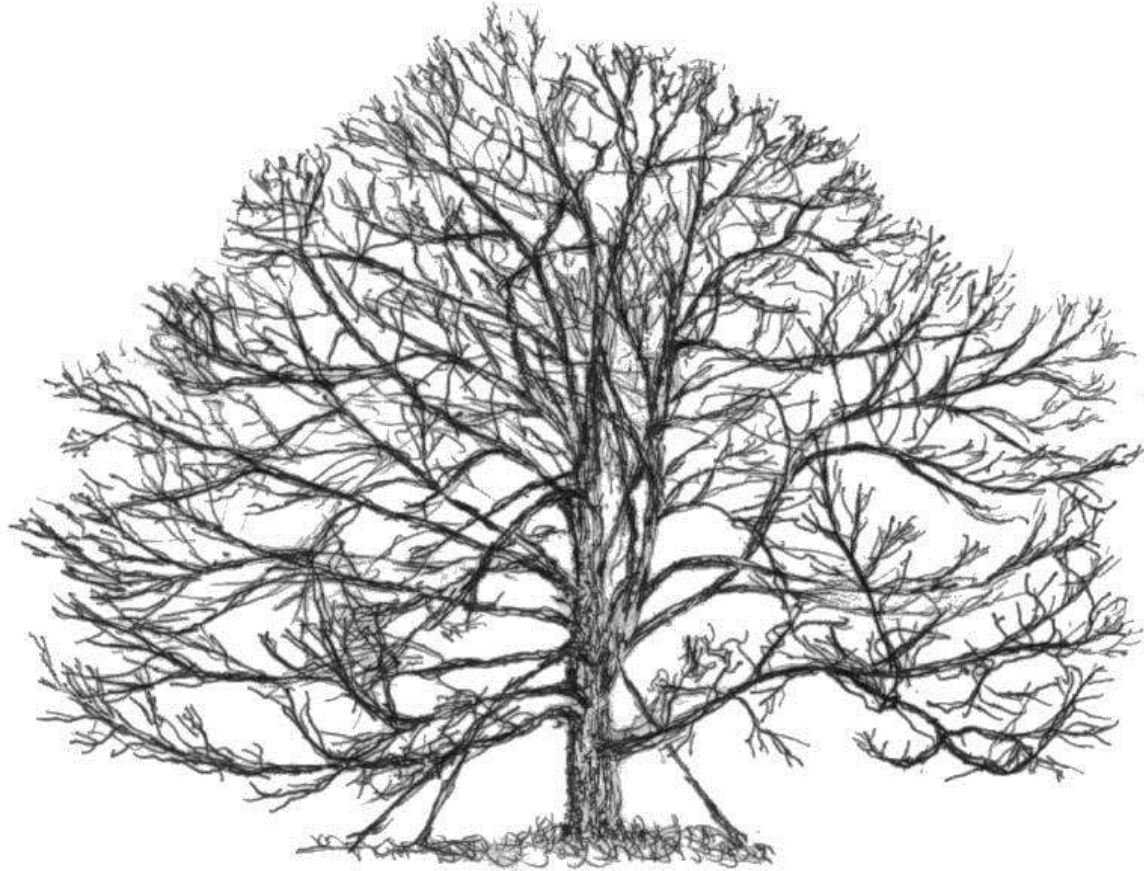


Safety



Clearance

**free-standing tree
versus
forest tree**



Clearance



Minimal required clearance

The minimal required heights for clearance, as prescribed by Rijkswaterstaat in the Netherlands

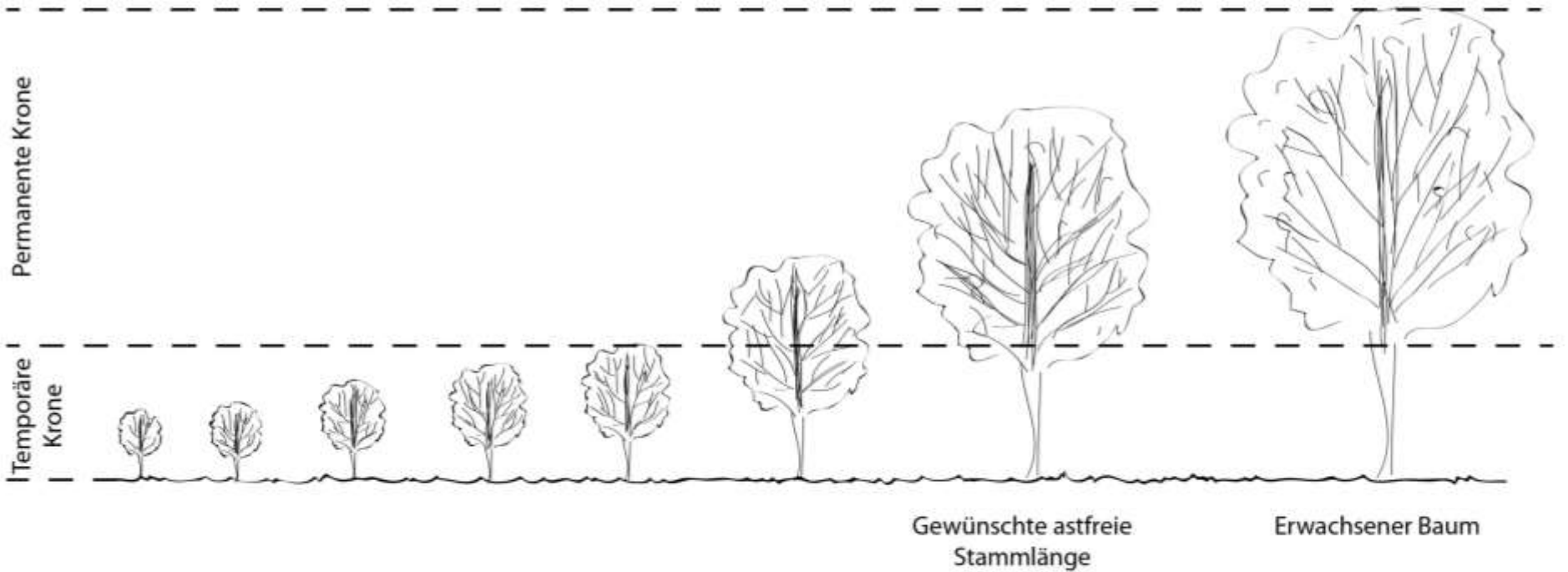
Category	Minimal required clearance
Foot- and cycle path	2.5 meter
Roads/ streets for all traffic	4.2 meter
(Motor-)Highways	4.6 meter

Bending down of branches

- To achieve the required clearance, in most cases the clean trunk height must be even higher.
- Tree species which have strong bending branches like *Aesculus*, *Platanus*, *Tilia*, etc.
 - Example: clearance 4.2 meter = at least 6.0 meter clean trunk
- Most of the in-rotting pruning wounds are located in the trunk at a height of 3.81 to 4.72 meter (Dujesiefken et al. 2008).
- Conclusion: early pruning could have prevented such problems.



temporary canopy versus permanent canopy



Safety

Trees must be safe




Structural issues that cause trees to fail

1. Codominant stems
2. Included bark
3. Unbalanced canopy
4. Large branches in the temporary canopy

Codominant stems




optimal branch – stem
diameter ratio is 0.65 or
less



branch 17 cm : stem 20 cm

ratio 0.85



branch 3,5 cm : stem 11 cm

ratio 0.32

Included bark





Unbalanced canopy





Large branches in the temporary canopy

Large branches in the temporary canopy



Tree nursery

1. Pruning of shade trees starts at the nursery
2. Buy good quality trees (*“He who pays the piper calls the tune”*)

Requirements:

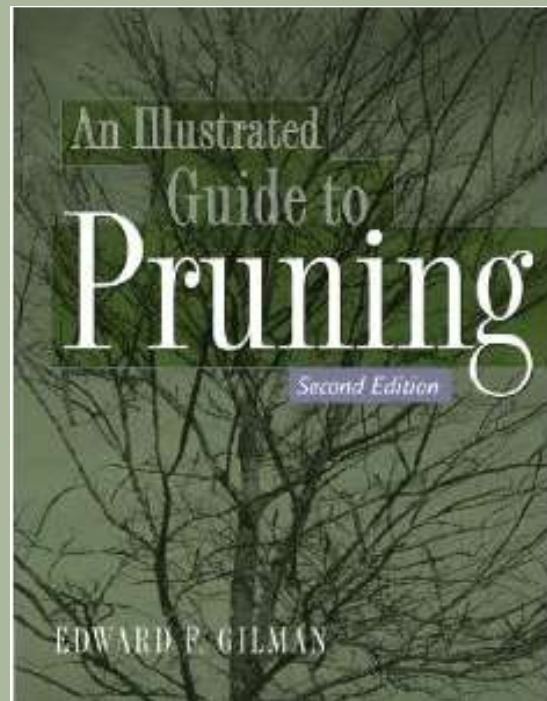
- One dominant leader
- Major branches and trunk should not touch
- Branches should be less than $\frac{2}{3}$ trunk diameter

Trees with an irregular canopy, one dominant trunk, and good branch arrangement are far better than trees with a uniform canopy and a double trunk with included bark!



The pruning concept

1. The rules
2. Steps and actions
3. Pruning cycle



The 4 basic rules

The rules per pruning	
1	Remove maximum 20% of the foliage
2	Remove the largest branches first
3	Do not remove branches that grow above, beside or in opposite position from each other
4	As a principal only remove whole branches

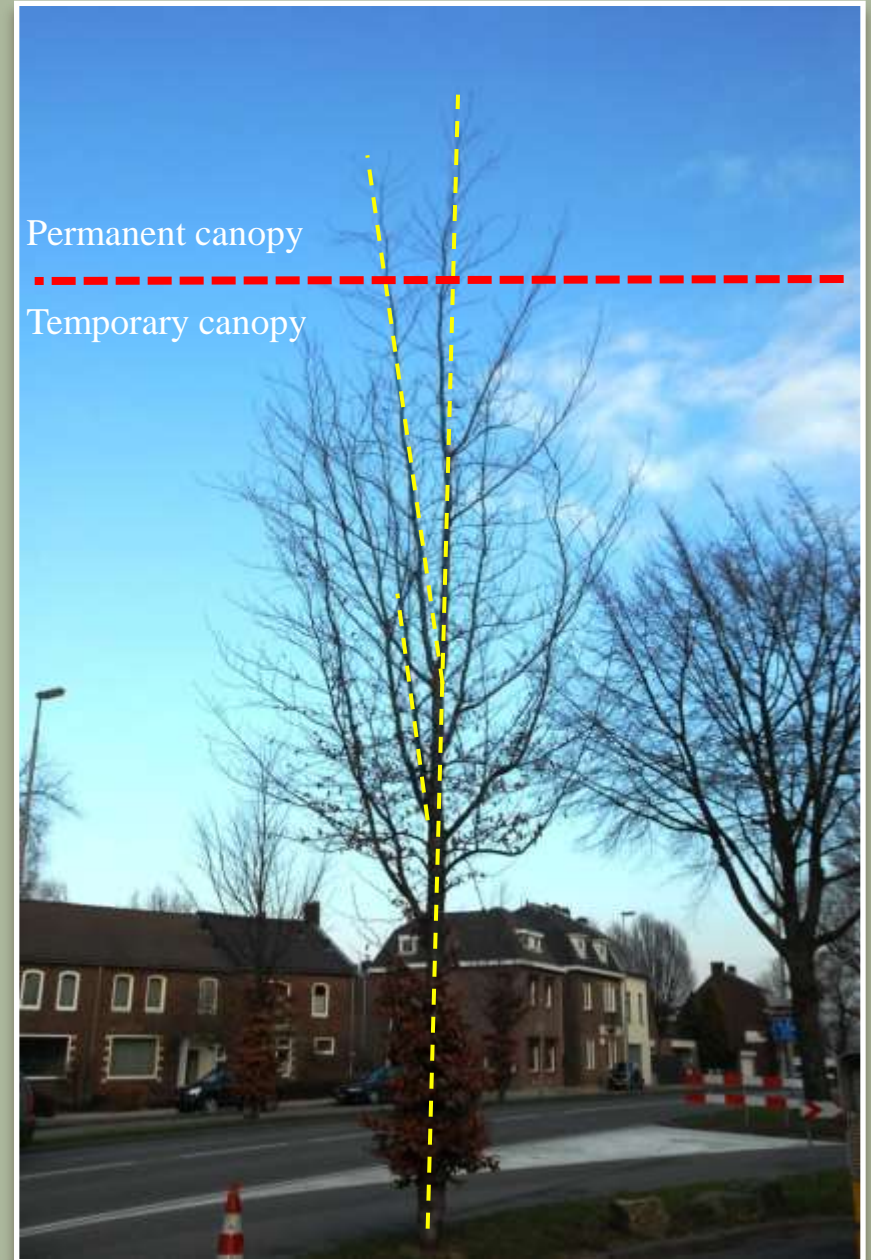
Steps and actions

Steps and actions per pruning	
Get a good picture of the structure of the tree (keep distance)	
Step 1	Determine the dominant leader
Step 2	Identify problem branches
Step 3	Determine the required branch-free space
Decide which and how many branches should be removed in this maintenance	
Action 1	Remove competing branches of the dominant leader
Action 2	Remove or reduce problem branches
Action 3	Remove for the necessary clearance the largest branch or branches from the temporary canopy

Steps 1-2-3

Get a good picture of the structure of the tree (keep distance)

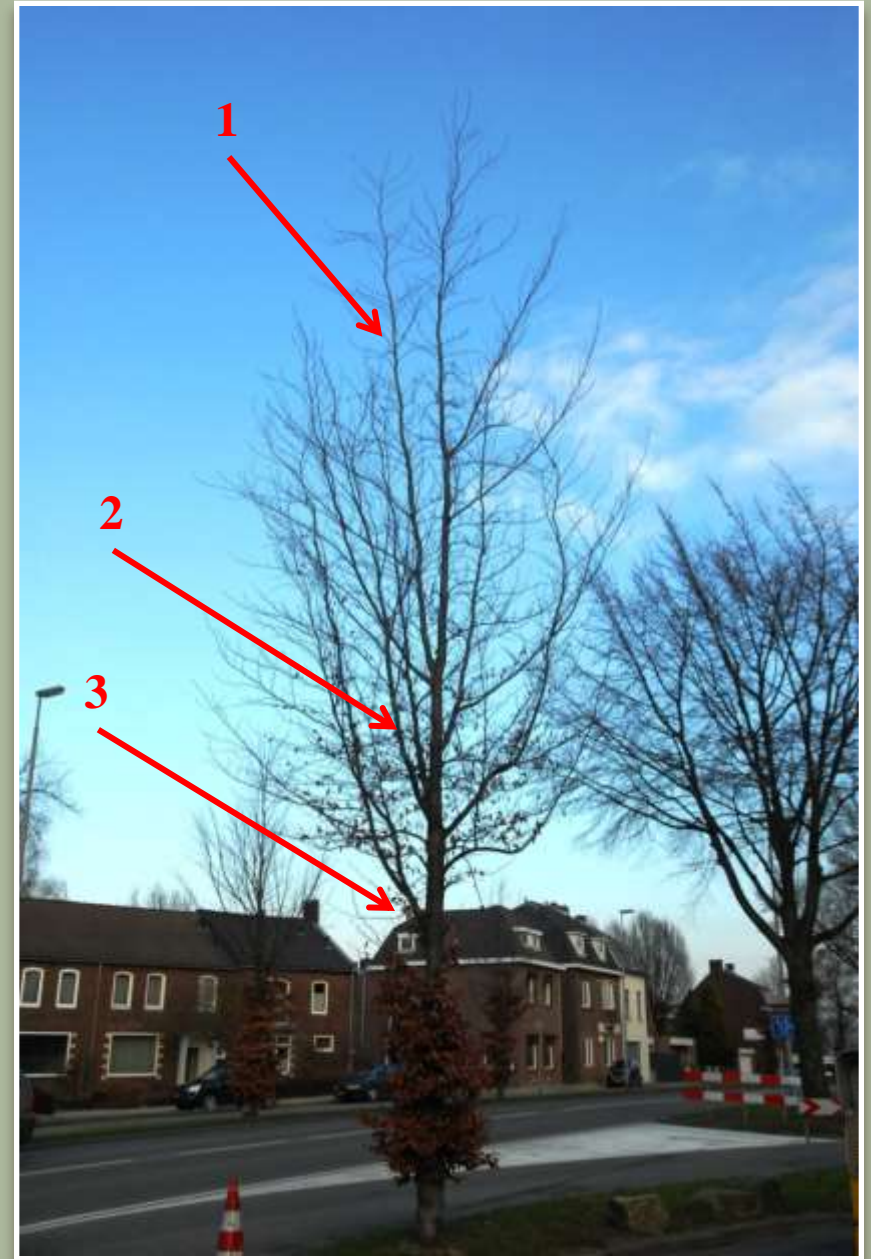
1. Determine the dominant leader
2. Identify problem branches
3. Determine the required branch-free space



Actions 1-2-3

Decide which and how many branches should be removed in this maintenance.

1. Remove competing branches of the dominant leader
2. Remove or reduce problem branches
3. Remove for the necessary clearance the largest branches or branches from the temporary canopy



Before and after pruning



Pruning example young shade tree



Pruning cycle for young shade trees

Pruning cycle young trees	
“Youth-pruning”	
Phase 1 (0-15 years)	Phase 2 (16-25 years)
1: Year 2	8: Year 17
2: Year 4	9: Year 20
3: Year 6	10: Year 23
4: Year 8	
5: Year 10	
6: Year 12	
7: Year 14	



25 years

..werkdag..
21.00
geopend!
Hedon & More

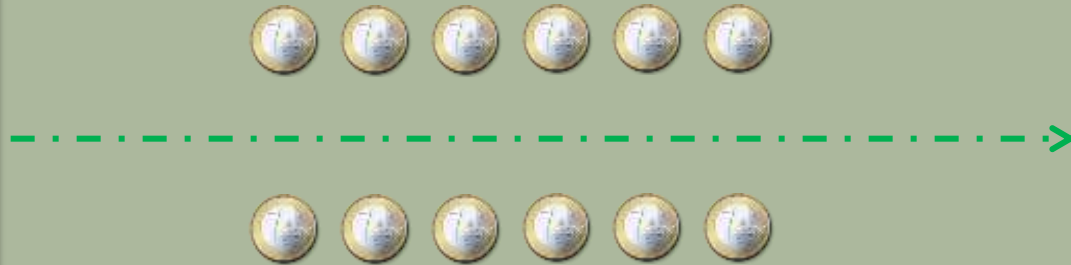








Financial consequences first 25 years



Average costs of pruning a young tree in The Netherlands	€ 20 - € 30 per pruning (\$ 26 – \$ 39)
Pruning treatments in first 25 years	10 times
Total pruning costs for the first 25 y. (10 times pruning * € 20,00 - € 30,00)	€ 200,00 - € 300,00 (\$ 260 - \$ 390)
Pruning costs per year over the first 25 y. (€ 200,00 - € 300,00 / 25)	€ 8,00 - € 12,00 per tree a year (\$ 10 - \$ 15)





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Thank you for your attention



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