

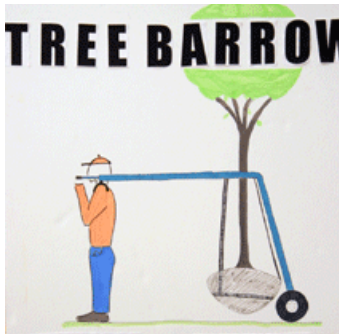
A decorative graphic consisting of a thin yellow circle on the left and a horizontal yellow bar extending to the right. The word "TreeBarrow" is written in black text on the bar, enclosed by large black and yellow brackets.

[TreeBarrow]

Orange A
Mock Up Presentation
20 October 2005

[Overview]

- Improve process of transporting and planting trees
 - Easier
 - Faster
 - Safer



[Technical Aspects]

- Critical operations
 - Loading
 - Moving
 - Lifting/lowering
- Design considerations
 - Stability
 - Strength
 - Transportable/lightweight
 - Cost

[Loading]

- Solid grasp on the root ball
- Constrained trunk to minimize movement



[Moving]

- Move over uneven terrain
- Easy to start/stop
- Reduce load on humans
- Move over curbs



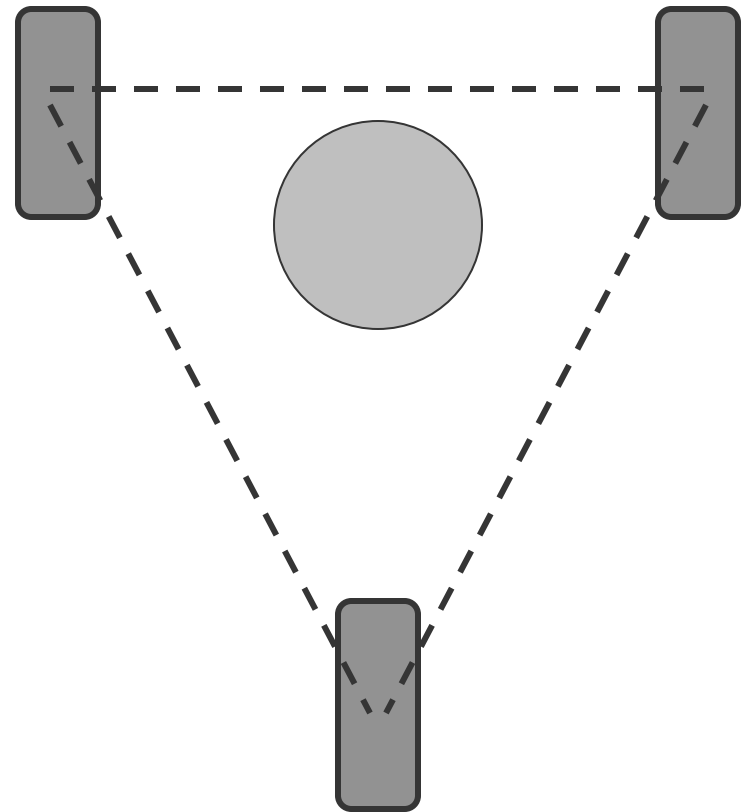
[Lifting/Lowering]

- Stable and smooth movements
- Reduced load on humans



[Stability]

- Will not tip over
- Straddles hole
- Reduce sway of tree



[Strength/Stiffness]

- Structure
- Boom
 - Cantilever beam subjected to heavy load
 - Increase stiffness with better cross-section
- Design Tradeoff
 - Strength
 - Weight
 - Cost

[Ease of Transport]

- Folding
 - + Fewer parts, easy to assemble
 - Heavy
- Assemble/disassemble
 - Many parts, time to assemble
 - + More lightweight parts

[Total Cost]

- Portable hydraulic cranes cost ~\$300
- Expected product cost: \$200 - \$400
- Similar tree movers: ~\$800

[User-Product Interaction]

- Safety
 - Must not tip over
- Ease of use
 - Simple to operate
 - Intuitive
- Process flexibility



[Timing – current system]

Load tree on dolly	10 minutes
Dig hole	40 minutes
Move tree to hole	10 minutes
Push tree into hole	10 minutes
Adjust tree in hole	30 minutes
Fill the hole	10 minutes
Total	~2 hours

[TreeBarrow]

