

# Inventory and Evaluation of Downtown Bloomington Street Trees

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## Street Tree Inventory



Site Description

- Included 913,000m<sup>2</sup>, or 11.94 linear miles of streets
- Six streets formed perimeter: 11<sup>th</sup> Street, Walnut Avenue, Rogers Avenue, Indiana Avenue, 6<sup>th</sup> Street, and 2<sup>nd</sup> Street

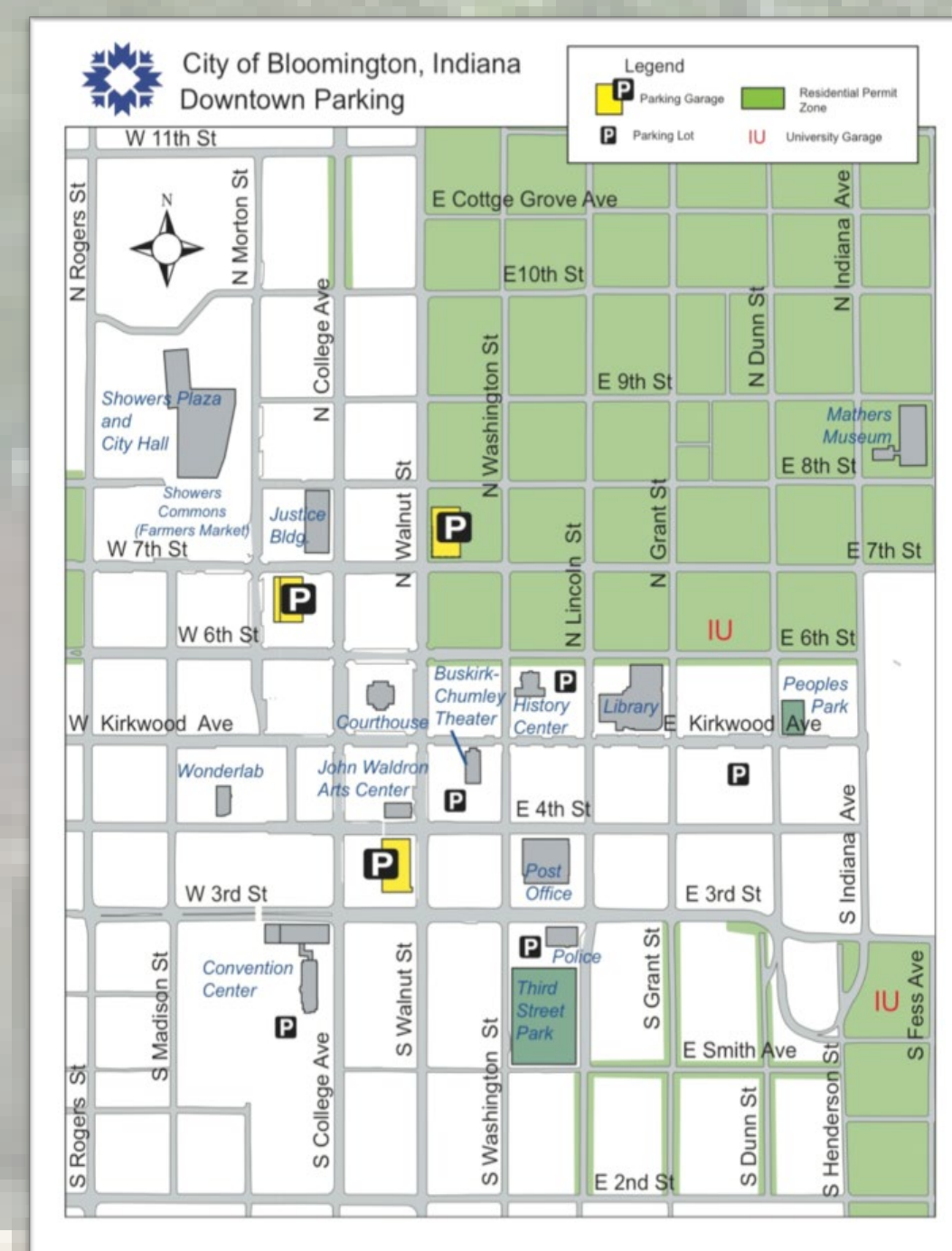


Figure 1. Map of downtown core, Bloomington, IN. All streets within these boundaries were inventoried, excluding the green, shaded property.

### Method

- Used 2007 Bloomington Street Tree Inventory Guidelines to inventory street trees only
- Street Tree: trees lying on the real estate owned or controlled by the City that grows on a tree lawn bounded by a sidewalk, or other public right-of-way, and a street (City of Bloomington, 2008).
- Data Collected: street name, tree species, DBH (diameter at breast height), condition of tree, suggested maintenance, possible tree planting sites, additional comments

### Results

- We inventoried a total of 775 street trees, the majority of which were either Maple or Ginkgo
- Overall, the trees were in good condition, and only required routine maintenance
- Some young trees had been maintained improperly, including volcano mulching and unnecessary staking

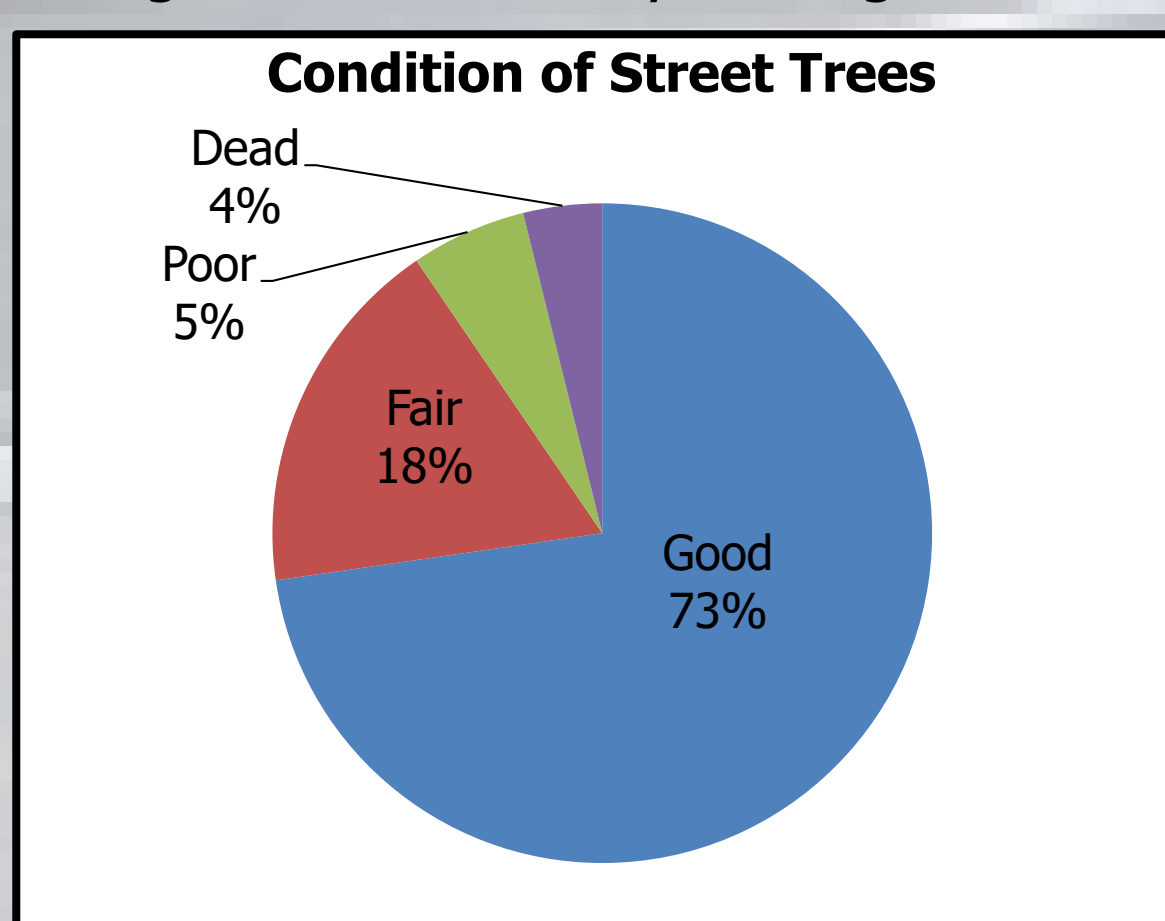


Figure 2. This graph shows the overall condition of street trees in the downtown core. Overall, most trees are in good condition.

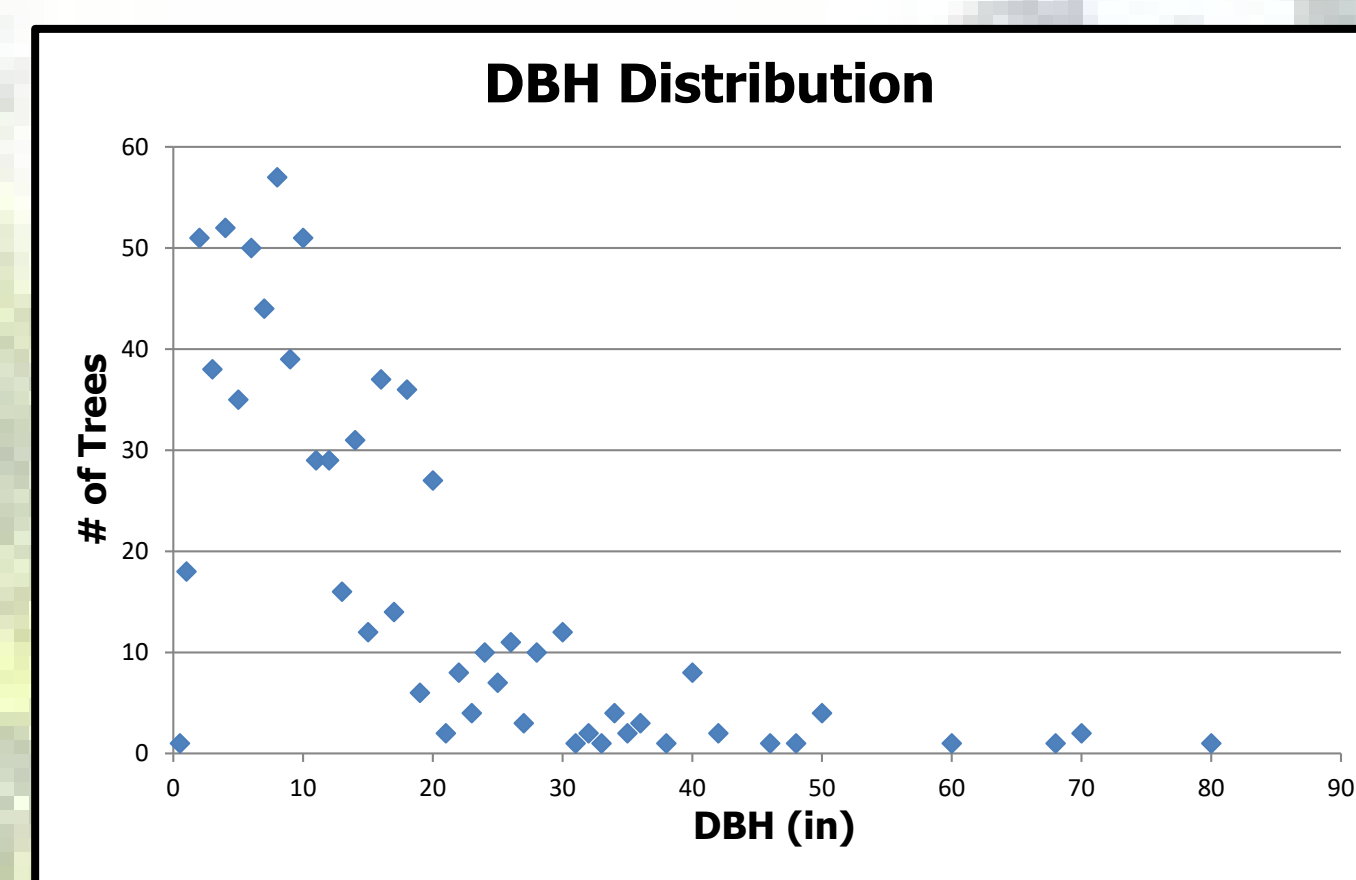


Figure 3. This graph shows the distribution of DBH amongst inventoried street trees. Most tree diameters were smaller than 20 inches

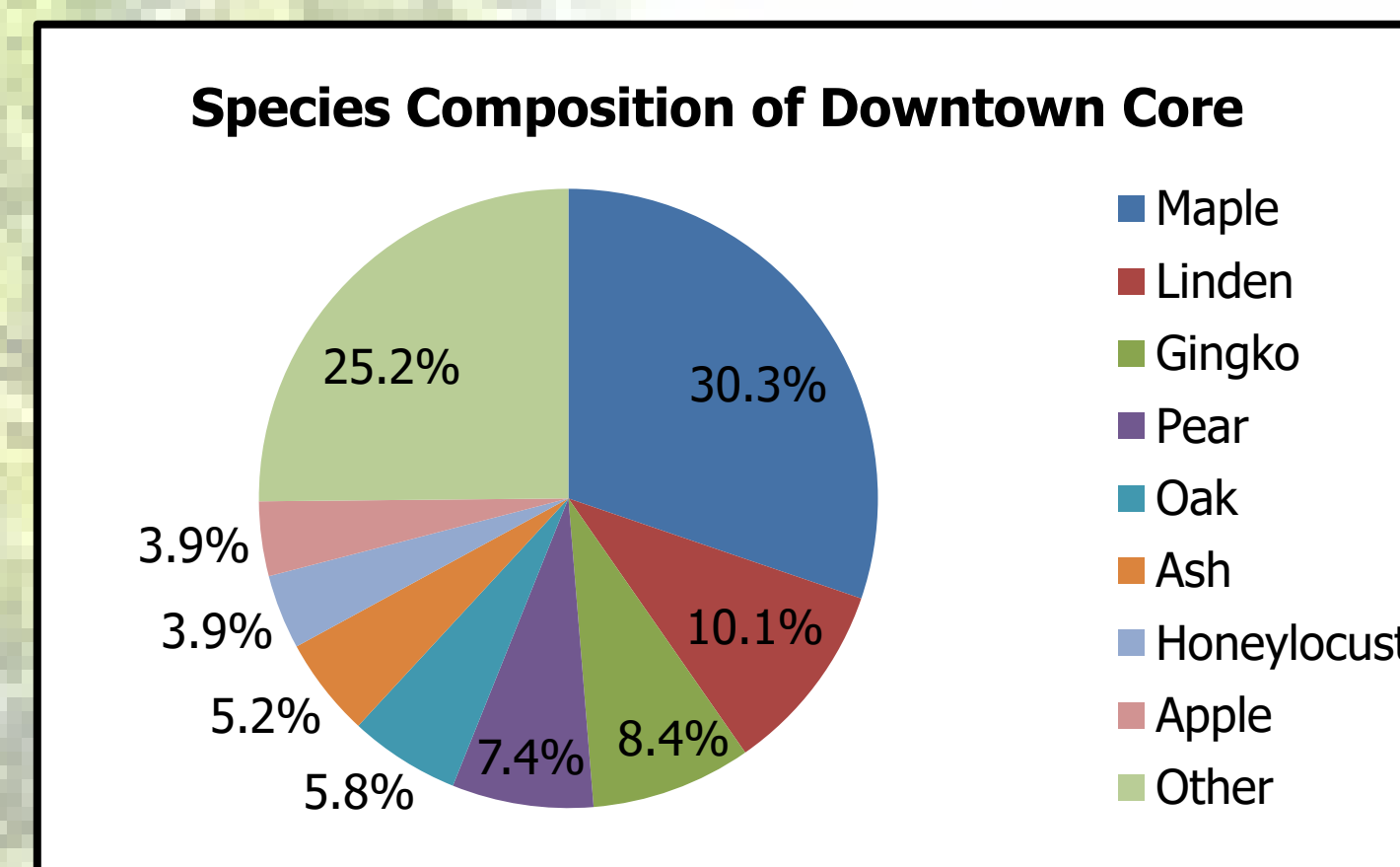


Figure 4. This graph illustrates the diversity of tree species in the downtown area of Bloomington

- We noted approximately 10 locations for possible tree planting sites
- Most of the potential planting sites are located on Walnut Avenue and 3<sup>rd</sup> Street
- Approximately 7.8% of trees had conflicts with power lines
- Only 8 trees had created sidewalk damage above ¾ inch



## Downtown Tree Benefits and Costs

Benefits	Total (\$)	\$/tree	\$/person
Energy	\$3,659	\$4.73	\$0.05
CO <sub>2</sub>	\$504	\$0.65	\$0.01
Air Quality	\$1,324	\$1.71	\$0.02
Stormwater	\$11,156	\$14.41	\$0.14
Aesthetic/Other	\$20,405	\$26.38	\$0.25
<b>Total Benefits</b>	<b>\$37,048</b>	<b>\$47.87</b>	<b>\$0.46</b>
<b>Costs</b>			
Planting	\$6,738	\$8.71	\$0.08
Contract Pruning	\$1,008	\$1.30	\$0.01
Removal	\$13,029	\$16.83	\$0.16
Administration	\$4,127	\$5.33	\$0.05
Litter Clean Up	\$29	\$0.04	\$-
Other Costs	\$1,156	\$1.49	\$0.01
<b>Total Costs</b>	<b>\$26,087</b>	<b>\$33.70</b>	<b>\$0.32</b>
<b>Net Benefits</b>	<b>\$10,961</b>	<b>\$14.16</b>	<b>\$0.14</b>
<b>Benefit-Cost Ratio</b>	<b>1.42</b>		

Table 1. A breakdown of costs and benefits of the street tree population in the downtown core of Bloomington, IN is displayed. This information was determined using i-Tree software.

## Survey of Downtown Merchants

### Survey Questions

- Do you have trees in front of your storefront (could be directly in front of it or just to the side)?
- Do you think trees in front of or near your storefront attract customers to your store?
- Are there any areas in the downtown Bloomington area that you feel do not have enough trees, or that you feel have trees but they die more quickly or need to be replaced more often than you would like?
- Do you think the trees in the downtown area are in good condition?
- Please describe major negative effects, if any, that trees have on the downtown?
- Please describe major positive effects, if any, that trees have on the downtown?
- Is there anything else you'd like to add about trees and the downtown area as it relates to your establishment?

### Results

- Ten business owners filled out the survey on April 19<sup>th</sup>, 2012 at the Downtown Bloomington, Inc. members meeting
- Seven owners indicated that trees are located in front of their store
- Four business owners thought street trees blocked their store's sign, but three believed trees attracted shoppers to their stores
- Two business owners mentioned street trees as being vital to the downtown core

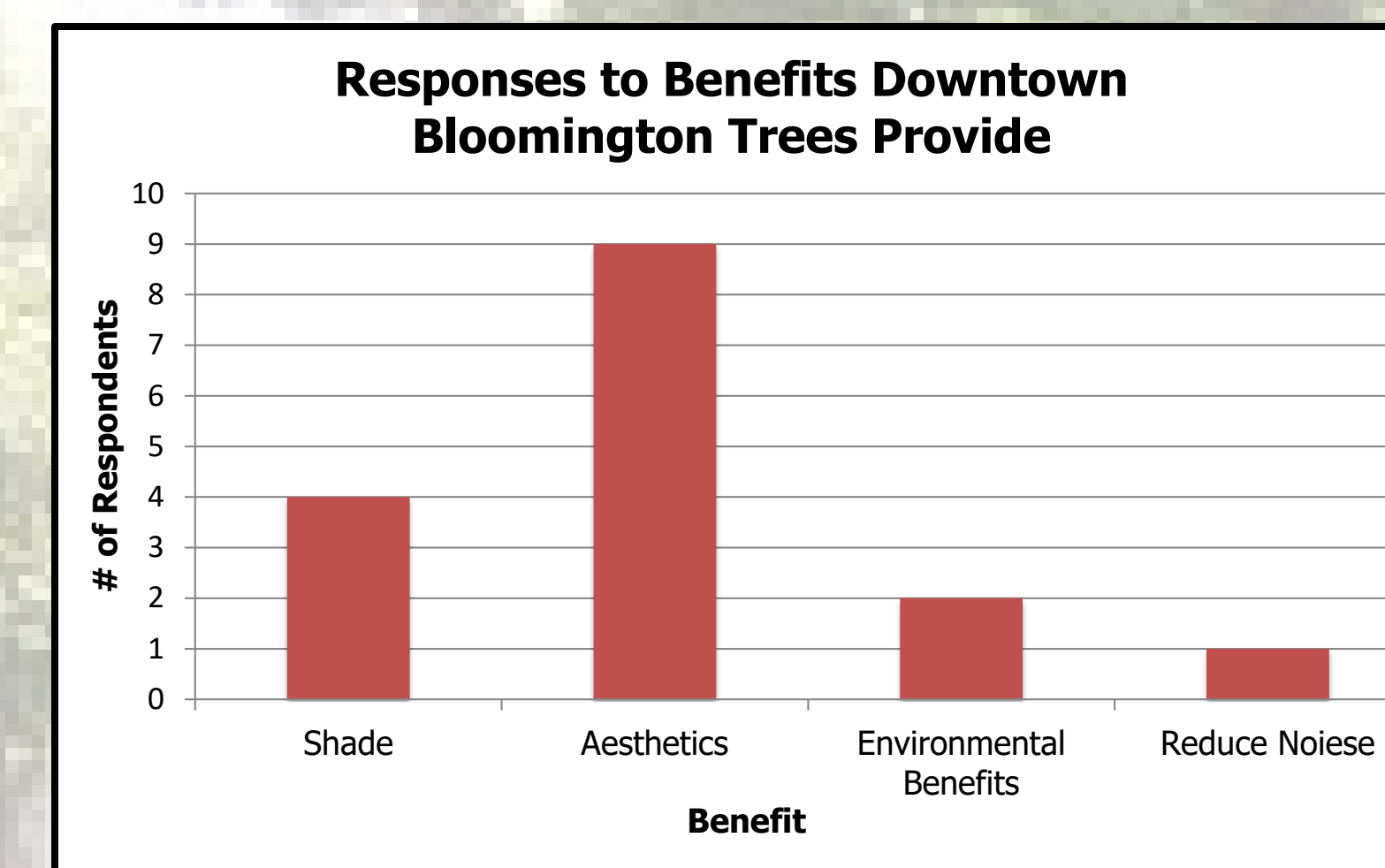


Figure 5. This graph illustrates business owner's beliefs about benefits gained from street trees. The aesthetic value of street trees was most commonly mentioned.

### Interviews

Jim Murphy (owner of CFC Properties):

- Believes that trees create a sense of place, add aesthetic value, and represent health of the downtown environment
- Part of team to revive Canopy of Lights, in which Bloomington trees are wrapped in lights on the Friday following Thanksgiving
- Thinks that trees are an integral part of downtown, but some trees are too large for their spaces and should be replaced with smaller trees

Danise Alano-Martin and Jacqui Bauer (Sustainability Coordinator):

- Downtown Tax Increment Financing fund is sizeable, but heavily obligated with many competing interests
- Agree that trees increase quality of life and lead to a healthy community
- Bloomington Tree Fund is difficult to contribute to and poorly publicized
- Believes that there is great potential with the Bloomington Tree Fund to raise more money for tree plantings through business donations

## Comparison of 2007 and 2012 Street Tree Inventories

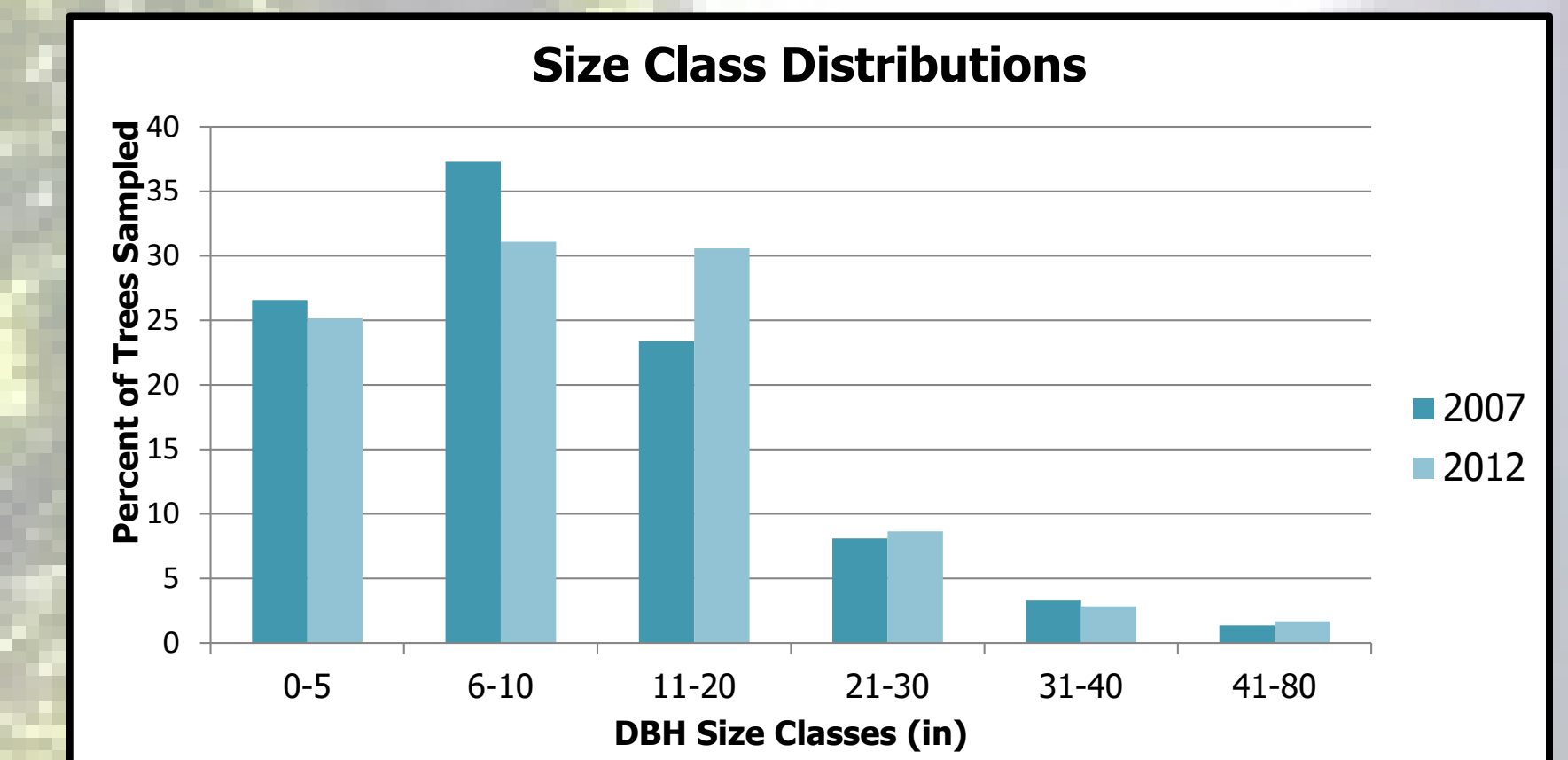


Figure 6. This graph shows the variation in size class distributions between the 2007 and 2012 inventories. The 2012 inventory has more trees in smaller size classes.

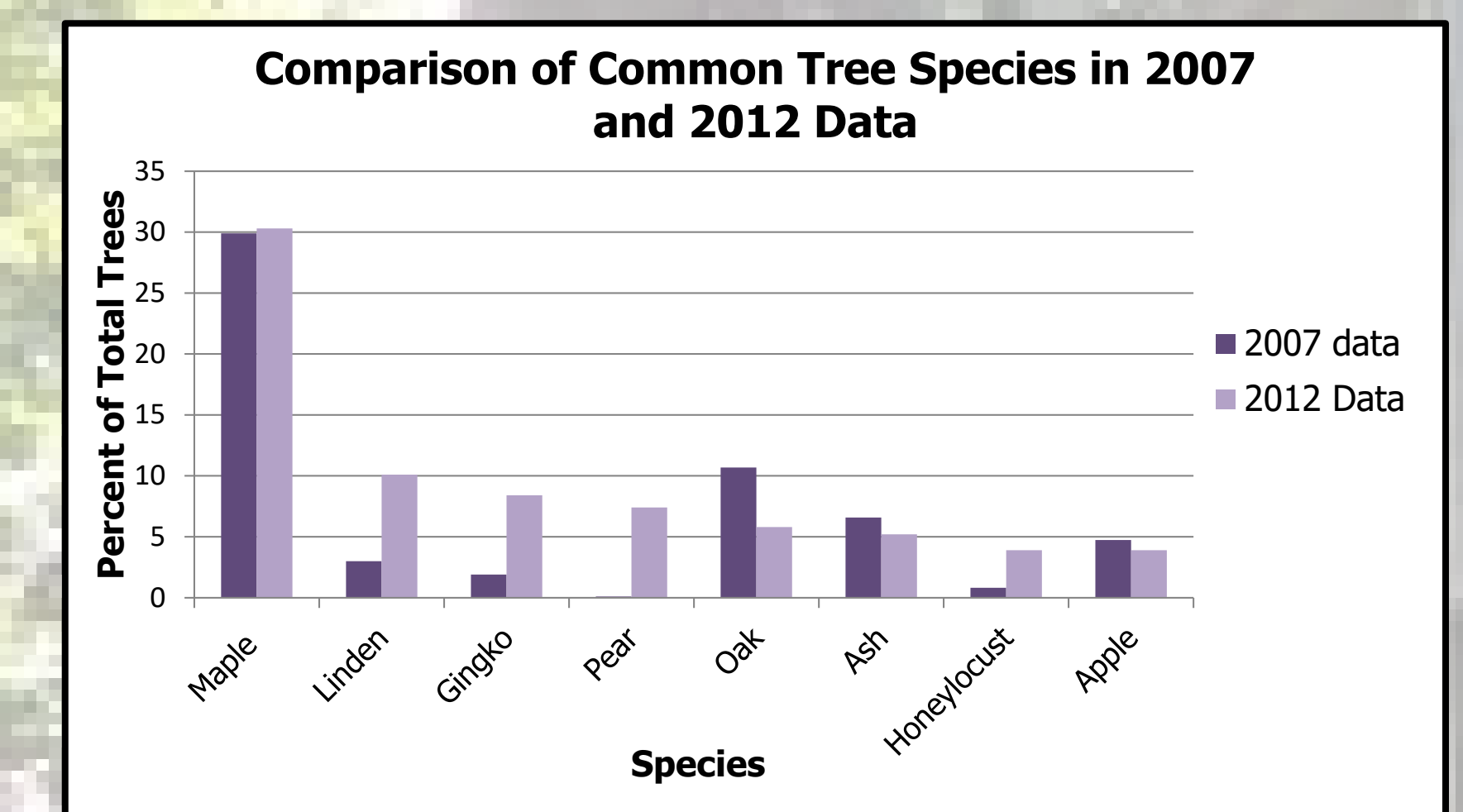


Figure 7. This graph illustrates the variation in tree species between the 2007 and 2012 inventories.



## Conclusions

- Maple and ginkgo species dominant Bloomington's downtown street tree population
- Overall, the street trees in the downtown core are in good condition, including the young street trees
- There are some planting sites in the downtown core, but fewer than recorded in the 2007 inventory
- The street trees in the downtown core provide a net benefit of \$10,961 and benefit-cost ratio of 1.42
- Bloomington business owners generally appreciate street trees and believe that they are an important component to the downtown core, specifically for their aesthetic value
- Some Bloomington business owners think that trees could be better maintained to avoid sign blockage, or smaller trees could be planted in front of stores
- The Bloomington Tree Fund has the potential for raising money to plant and maintain trees if it were more publicized to the public

### Work Cited

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