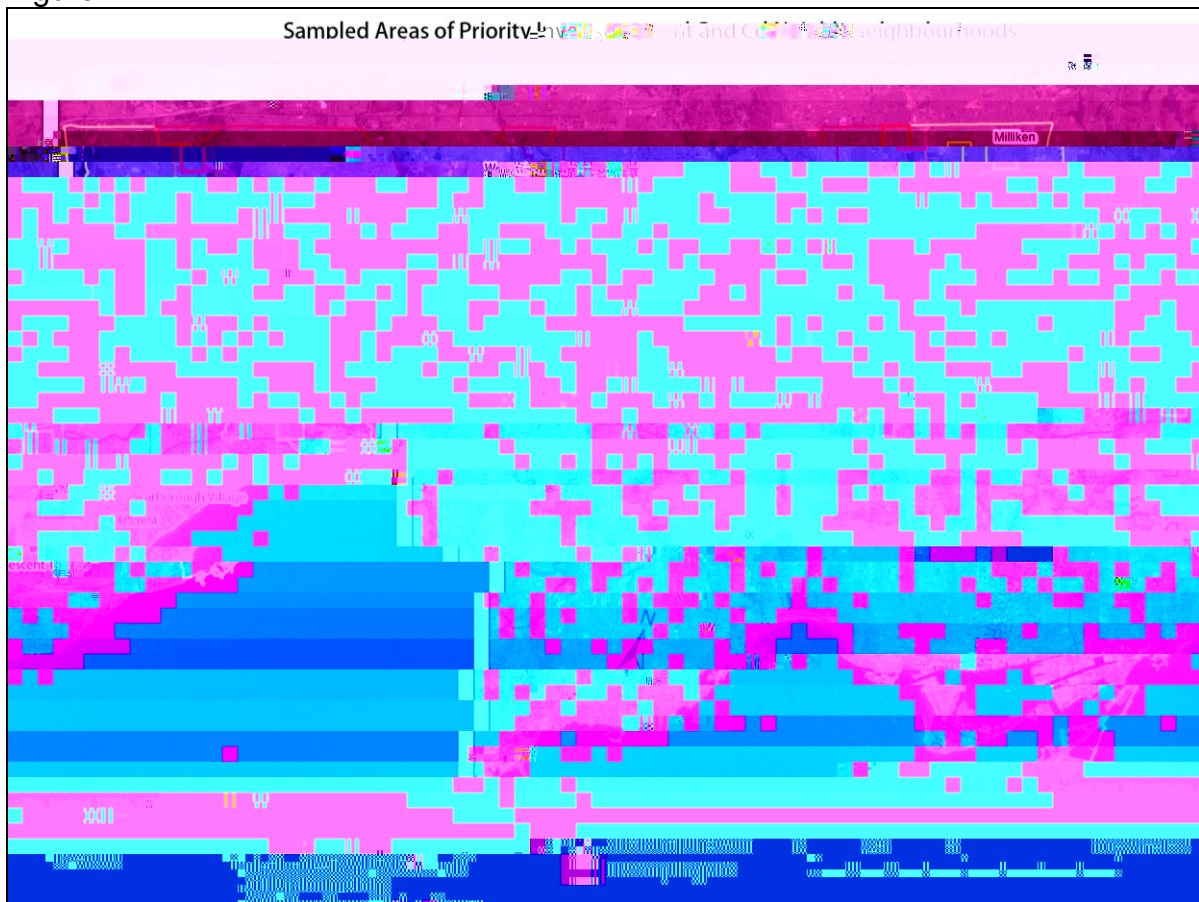


EXECUTIVE SUMMARY

This report supports the growing body of research that demonstrates the link between socioeconomic indicators and tree cover. A matched pairs design controlling for urban form showed a stratified spatial sample of single-detached housing in Urban Heat Island (UHI) and Investment Neighbourhoods (PINs) featured significantly less tree cover than nearby residential areas not designated as a PIN. Paired sample areas were selected based on the homogeneity of their built form and were near adjacent to control for development age. The PIN status served as a treatment group because they have been established based on collective socioeconomic and demographic traits similar to those cited in the literature as predictive of or correlated with urban tree cover. Such findings align with the environmental inequity hypothesis that environmental benefits are disproportionately distributed among different socioeconomic groups in urban areas. At the same time, much of the focus in previous studies has been on tree cover with less emphasis on the structural attributes of trees. The structural attributes of a tree community is important in ensuring its longevity and increasing the canopy, from where environmental benefits derive. Increasing the canopy cover is a chief objective for many cities, including Toronto, and relies on large tree growth. A diverse and healthy tree population contributes to the long term presence of large trees and their canopy, so genus and size class distribution were also examined for street trees in the right-of-way (ROW). With this, the planning implications and approaches towards a more equitable distribution were discussed.

A. Research Questions & Answers

Figure A-1.

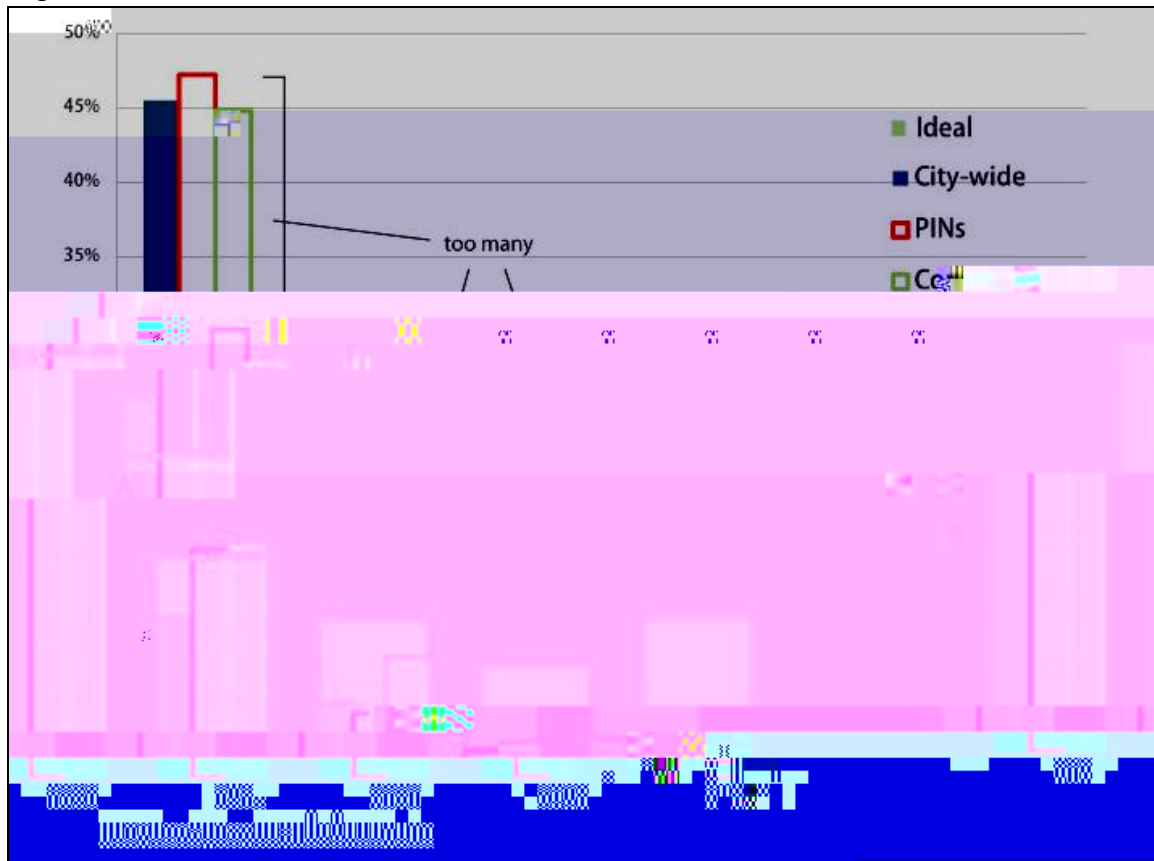


2. How do the genus distribution (diversity) and size class distribution (relative age) of sampled areas far against standard benchmarks used for tree master planning?

Diversity. Benchmarks for a single genus state that no one should represent over 10% or 20% in a given community. All samples had a proportion of maples (*Acer*) that exceeded the 20% mark regardless of neighbourhood status with some other common genera exceeding the 10% mark. Given the modifiable areal unit problem (MAUP), such benchmarks should be used more as a rule of thumb with emphasis on avoiding a homogenous stand or row of trees than meeting a proportion requirement.

Relative Age. The ideal size class distribution of a group of trees is based on the trunk diameter at breast height (DBH), which indicates the relative age of a tree stand. The DBH ranges from 0 cm to as large as the tree will grow. The distribution for Toronto and the ideal is seen in Figure A-2, showing how far the City and samples exceed or fall short of the ideal proportion.

Figure A-2.



Source: City and Ideal values from City of Toronto, *Every Tree Counts Report*, 2010

3. What planning directions / recommendations arise from implications of the first two questions?

Protect existing trees to ensure they reach their potential growth. Section B provides recommendations on achieving greater environmental equity in neighbourhood tree cover and local management strategies

B. Recommendations

1. Equitable Distribution: Use socioeconomic data to further prioritize urban forest

L Q Y H V W P H Q W V L Q D G G L W L R Q W R μ O H D V W W U H H G ¶ Q H L

The second of 6 strategic goals in R U R Q W R ¶ V 6 W U D W H J L F) R U H V W 0 D

L V W R ³ \$ F K a b l e d i s t r i b u t i o n o f t h e u r b a n f o r e s t , i n c r e a s i n g c a n o p y w h e r e

L V P R V W Q H H G H G a m a j o r o p p o r t u n i t y t o u n d e r t a k e t h e d e f i n i t i o n o f

μ H T X L W D E O H ¶ D t h e C i t y C a n P r i o r i t i z e l e s s a f f l u e n t n e i g h b o u r h o o d s t h a t a r e

