Tree Canopy Benefits

- Beautification
- Reduce the heat island effect

- Reduces Stormwater Runoff
SANDY SPRINGS TREE CANOPY

July, 2014

- UGA Institute of Ecology Natural Resources Spatial Analysis Laboratory (NARSAL) conducted canopy studies using 1991, 2001, and 2005 Landsat Satellite Imagery

- Data resolution was 30 meter pixels

- 1991 – 59% canopy cover
- 2001 – 54% canopy cover
- 2005 – 55% canopy cover
2008 Canopy Study

- Sandy Springs GIS staff, with significant assistance from NARSAL, conducted a canopy study of using 2008 Landsat 5 data

- 30 meter resolution infrared pictometry

- Data had already been processed by NARSAL

- 2008 – 51.82% canopy cover
Canopy Studies – 2010 and 2013

- Sandy Springs GIS staff, again with significant assistance from NARSAL, conducted canopy studies using data from National Agriculture Inventory Program (NAIP)

- NAIP 1 meter higher resolution data allowed for very accurate grading

- Data was checked against aerial photography of the City
Canopy Studies – 2010 and 2013

- 2010 – 59.02% canopy cover
- 2013 – 62.48% canopy cover
Sandy Springs Canopy Studies

30 Meter Resolution
- 1991 – 59% canopy cover
- 2001 – 54% canopy cover
- 2005 – 55% canopy cover
- 2008 – 52% canopy cover

1 Meter Resolution
- 2010 – 59% canopy cover
- 2013 – 62% canopy cover
## Sandy Springs vs. Other Cities

<table>
<thead>
<tr>
<th>City</th>
<th>Percent Tree Canopy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ann Arbor, Michigan</td>
<td>32.93</td>
</tr>
<tr>
<td>Atlanta, Georgia</td>
<td>52.45</td>
</tr>
<tr>
<td>Austin, Texas</td>
<td>32.00</td>
</tr>
<tr>
<td>Baltimore, Maryland</td>
<td>27.28</td>
</tr>
<tr>
<td>Des Moines, Iowa</td>
<td>24.09</td>
</tr>
<tr>
<td>Salem, Oregon</td>
<td>23.23</td>
</tr>
<tr>
<td>Portland, Oregon</td>
<td>28.24</td>
</tr>
<tr>
<td>Pittsburgh, Pennsylvania</td>
<td>42.00</td>
</tr>
<tr>
<td><strong>Sandy Springs, Georgia</strong></td>
<td><strong>62.48</strong></td>
</tr>
</tbody>
</table>

Source for Comparable City Data: Tree Canopy Coverage for the City of Atlanta: Methodology Definition, Geography Assessment and City Comparison, Gilliam Campbell, MRCP 2013
Sandy Springs vs. Other Cities

Tree canopy percentages available for US cities vary considerably depending upon the source, the study boundaries (city limits vs. MSA), data resolution, year calculated, etc.

A more valid comparison is:
- Canopy data for Sandy Springs over time
- Targeted area canopy studies for Sandy Springs
## Sub Area Canopy Study

<table>
<thead>
<tr>
<th>Drainage Basin</th>
<th>2010 Canopy</th>
<th>2013 Canopy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heard Creek</td>
<td>61.69</td>
<td>71.47</td>
</tr>
<tr>
<td>Long Island Creek</td>
<td>59.56</td>
<td>66.42</td>
</tr>
<tr>
<td>Nancy Creek</td>
<td>50.27</td>
<td>53.08</td>
</tr>
<tr>
<td>Marsh Creek</td>
<td>57.93</td>
<td>60.63</td>
</tr>
<tr>
<td>Sullivans Creek</td>
<td>56.58</td>
<td>56.00</td>
</tr>
<tr>
<td>Crooked Creek</td>
<td>70.42</td>
<td>70.22</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>59.41</strong></td>
<td><strong>62.97</strong></td>
</tr>
</tbody>
</table>
Canopy Study – Next Steps

Conduct Regular Canopy Studies and continue to assess the tree canopy on a city wide and stormwater basin basis

- National Agricultural Inventory Program (NAIP) data is available every three years
- New data will be available in 2016
August 6, 2014

PEER CITY TREE ORDINANCE COMPARISON

August 6, 2014
Tree Regulations Comparison

Regulations were reviewed for a number of peer cities:

- Atlanta
- Athens/Clark County
- Decatur
- Roswell
- Alpharetta
- Dunwoody
- Johns Creek
- Smyrna
Tree regulations examined for a number of items include:

- When is a tree removal permit required?
- Boundary tree protection requirements
- Recompense requirements
- Specimen or protected tree standards
- Canopy coverage requirements
Tree Removal Permit

- **Alpharetta:** Permit required for removal of any tree
- **Atlanta:** Permit required for trees 6” dbh or greater, pines 12” dbh or greater
- **Roswell:** Hardwoods 24” dbh or greater, pines 30” dbh or greater
- **Sandy Springs:** Trees 18” dbh or greater
Boundary Tree Protection

- Athens/Clark County, Dunwoody, Johns Creek: No requirements
- **Atlanta:** Hardwoods 6” dbh or greater, pines 12” dbh or greater
- **Roswell:** Hardwoods 24” dbh or greater, pines 30” dbh or greater
- **Decatur:** Trees 6” dbh or greater
- **Sandy Springs:** Trees 18” dbh or greater
Recompense Requirements

Replacement Requirements for a 30” Tree

- **Athens/Clark County:** Replacement only if minimum canopy coverage requirements are not met

- **Smyrna:** Replace inch for inch or payment of $4,200 into Tree Fund

- **Roswell:** Payment of $3,750 into tree bank or replant eight 4” caliper trees

- **Decatur:** Replant total lost square footage of canopy

- **Sandy Springs:** Replant 2 trees or pay $2,250 into Tree Fund
Specimen or Landmark Tree

- Athens/Clark County: Hardwoods 36” dbh
- Atlanta: Hardwoods 30” dbh
- Johns Creek: Hardwoods 27” dbh
- Roswell: Hardwoods 24” dbh
- Decatur: Hardwoods 27” dbh
- Sandy Springs: Hardwoods 27” dbh
Canopy Requirements

- **Atlanta:** 40” per acre
- **Johns Creek:** 20 density units per acre
- **Roswell:** 30 density units per acre
- **Decatur:** Commercial 45%; single family no net loss of canopy
- **Smyrna:** 100” per acre
- **Sandy Springs:** 30% for single family, 40% for commercial projects
TREE ORDINANCE
RECOMMENDED
AMENDMENTS

August 6, 2014
Boundary Trees

Boundary trees are defined as trees on adjacent property 18’ Diameter Breast Height (DBH) or larger whose critical root zone or canopy extends across the property line

- Trees less than 18” are not protected

**AMENDMENT:**
Require protection of boundary trees 10” and larger
Boundary Trees

Per Tree Conservation Administrative Guidelines encroachment into the critical root zone of a boundary tree of greater than 25%:

- Requires escrow held for three years to cover the replacement and removal cost if the boundary tree does not survive

**AMENDMENT:**
Add the 25% threshold requirement to the Tree Conservation Ordinance
Boundary Trees

Amendment:
Require protection of boundary trees 10” and larger
Landmark Trees

Change Landmark Tree mitigation calculation

- The Ordinance allows use of an assigned canopy credit, which is significantly less than the actual canopy of larger trees

**AMENDMENT:**

- Require mitigation for actual measured canopy
Landmark Tree Protection

Amendment:
Base canopy replacement on actual size of Landmark Tree
Canopy Replacement

Penalize Significant Canopy Removal

**AMENDMENT:**

Require payment into the Tree Fund and canopy mitigation when the existing canopy is cut to a point below the minimum canopy requirements
Canopy Replacement Calculation

Increase Canopy Replacement Requirements

**AMENDMENT:**

- Include only trees 18” or larger towards meeting canopy requirements
- Add provision for calculating canopy for multi-stem trees (should use critical root zone instead of canopy cost assignment table)
Tree Protection

Citizens often notify us of Tree Ordinance violations; preference is for calls to go to the Call Center at (770) 730-5600
Tree Protection

- Trees can be damaged in a matter of minutes on an active construction site
- Homeowners also damage trees as a part of landscape projects
Minimum Planting Size

- Typically trees that are 2” caliper or less require additional structural care to develop into mature specimen
- Trees larger than 2 ½” caliper are more difficult to plant correctly and have a longer establishment curve

**AMENDMENT:**
Increase minimum replanting size from 2” to 2 ½”
Other Recommended Amendments

- Add language that refers to the Zoning Ordinance buffers (as distinguished from a stream buffer)
- Change parking lot replanting standards to incorporate flexibility of recent zoning amendment
- Revise the recommended tree list
- Specify ISA certified arborist can submit condition evaluation for Landmark Trees
Other Changes for Consideration

When existing trees along the entire street frontage are cleared as a part single family redevelopment, require tree planting along the frontage:

- One tree for lots 100’ wide or less
- Two trees for lots for 200’ wide or less
- Three trees for lots 200’ wide or greater
Recently Completed Projects

- Fig Island
- Hannover Park Road Street Trees
- Spring Crossing (Abernathy and Roswell)
- Arts Center Streetscape
- Gateway Landscaping/ Roswell and I-285
- Abernathy Greenway
Recently Completed Projects

**Fig Island**
- Island expanded with new curbing installed by Public Works
- Approximately 5,700 square feet planted with crape myrtles, daylilies, sedums and loropetalum
Recently Completed Projects

Hannover Park Road Street Trees

- Planting of Red Maples on Hannover Park Road
- Planting of Crape Myrtles on Roswell Road under utility lines
Tree Fund

Funds collected for:

- Site size not sufficient to meet canopy requirements or mitigation requirements
- Enforcement of Tree Conservation Ordinance, related to illegally removed trees
Tree Fund Projects - 2013/2014

Abernathy/Roswell Road Island – To be completed
  • Upon reconstruction of island by DPW with mast arm installation

City Center Street Trees – Reprogram funds
  • All previously planted trees to be replaced were on private property

Spring Crossing Landscape - Completed

Fig Island - Completed

Glenridge Drive south of Abernathy – Reprogram funds
  • Property proposed for redevelopment
Tree Fund Balance

- Tree Fund Balance
  (as of July, 2013) $116,983.00
  - Expenditures $53,906.00
  - Income $50,000.00

- Tree Fund FY 2014/2015
  (as of July, 2014) $113,077.00
Tree Fund Project Evaluation Criteria

1. Overall Project Cost (goal to install greater quantity of less-expensive projects)
2. Visibility (proximity to gateway corridors, higher traffic counts)
3. Beautification (addressing eyesores/ impact)
4. Ease of implementation/complexity of project
5. Public/ private partnership potential
2014/2015 Tree Fund

**Recommended Projects**

- Fire Station Landscaping
- Johnson Ferry Road Medians and Street Trees
- Abernathy Road Medians and Street Trees
Fire Stations Landscaping

Fire Stations: 1 and 2

- Landscaping to enhance streetscape along roadways
Johnson Ferry Road Improvements

Johnson Ferry Rd Medians
- Islands currently grassed, cleared of concrete in 2013
- Beautification – trees, shrubs, groundcover
Abernathy Road Street Trees

- Trees proposed in existing right of way
- Smaller trees required below power lines and in sight lines of shopping center
Abernathy Road Improvements

Abernathy Road Medians

- Beautification – trees, shrubs, groundcover
### Proposed Project Cost Estimates

<table>
<thead>
<tr>
<th>Project</th>
<th>Estimated Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Stations: 1 and 2</td>
<td>$ 35,000</td>
</tr>
<tr>
<td>Johnson Ferry Road Medians</td>
<td>$ 100,000</td>
</tr>
<tr>
<td>Abernathy Road Medians &amp; Street Trees</td>
<td>$ 110,000</td>
</tr>
</tbody>
</table>

Estimate is based on potential size and complexity of projects. Actual costs will vary with program development, and are provided for discussion purposes only. Maintenance for first year included in estimates.
Tree Fund Planting

Recommended Plan for expenditure of Tree Bank Funds will be submitted to Council for approval annually

**Recommended Change:**
Use Tree Bank Funds for Tree Planting only (the purchase, planting and first two years of maintenance)
TREE CANOPY

August 6 2014