USDA Forest Service

Urban Forest Connections
webinar series

Second Wednesdays | 1:00 – 2:15 pm ET
www.fs.fed.us/research/urban-webinars

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THE POWER OF TREE CANOPY DATA TO PLAN, PRIORITIZE, AND INSPIRE STEWARDSHIP

PART I: RESEARCH FOUNDATIONS

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USDA Forest Service

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Urban Forest Connections
October 14, 2015
Grant objectives

• Regional forestry assessment
• Regional policy and planning framework
• Community education
• Adoption and implementation of framework goals and recommendations
Stakeholder comments

• “It’s like apple pie and motherhood”
• Education is top priority (Dubrovnic)
• Funding!
• “Take care of what we’ve got”
• Integration at project, program, policy levels
• Policy-level support is critical
• “Let’s take the elevator to the top!”
GREATER KANSAS CITY REGIONAL FOREST

249,450,000 trees cover 18.6% of our region’s land

A. Platte  
B. Clay  
C. Ray  
D. Jackson  
E. Cass  
F. Johnson  
G. Wyandotte  
H. Leavenworth
# Regional Assessment

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of trees</td>
<td>249,450,000</td>
</tr>
<tr>
<td>Tree cover</td>
<td>18.6%</td>
</tr>
<tr>
<td>Pollution removal</td>
<td>37,000 tons/yr ($286M/yr)</td>
</tr>
<tr>
<td>Ozone removal</td>
<td>23,040 tons/yr ($207M/yr)</td>
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<tr>
<td>Carbon storage</td>
<td>19.9M tons ($411M)</td>
</tr>
<tr>
<td>Carbon sequestration</td>
<td>1.0M tons/yr ($20.7M/yr)</td>
</tr>
<tr>
<td>Building energy reduction</td>
<td>$14M/yr</td>
</tr>
<tr>
<td>Total value per year</td>
<td>$320.7M/yr</td>
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Emerging Policy Issues

• Heat island abatement
• Air quality
• Green infrastructure conservation at the landscape, watershed and site scales
• Complete and green streets
• Orchards, urban ag & rain gardens
POLICY & PLANNING FRAMEWORK
Framework: Our Approach

• Raising the bar
• Regional integration
• Flexible local implementation
Overarching concepts

• Green infrastructure is an integral element of community infrastructure
• Builds upon long local *history* of commitment to trees in *flexible* ways
**Communities in the Greater Kansas City Region**

<table>
<thead>
<tr>
<th>Blue Springs</th>
<th>Lansing</th>
<th>Olathe</th>
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</thead>
<tbody>
<tr>
<td>Bonner Springs</td>
<td>Leavenworth</td>
<td>Osawatomie</td>
</tr>
<tr>
<td>DeSoto</td>
<td>Leawood</td>
<td>Overland Park</td>
</tr>
<tr>
<td>Fairway</td>
<td>Lee's Summit</td>
<td>Paola</td>
</tr>
<tr>
<td>Gardner</td>
<td>Lenexa</td>
<td>Parkville</td>
</tr>
<tr>
<td>Gladstone</td>
<td>Liberty</td>
<td>Prairie Village</td>
</tr>
<tr>
<td>Grain Valley</td>
<td>Louisburg</td>
<td>Raytown</td>
</tr>
<tr>
<td>Independence</td>
<td>Merriam</td>
<td>Roeland Park</td>
</tr>
<tr>
<td>Kansas City, KS</td>
<td>Mission</td>
<td>Shawnee</td>
</tr>
<tr>
<td>Kansas City, MO</td>
<td>Mission Hills</td>
<td>Spring Hill</td>
</tr>
<tr>
<td>Lake Quivira</td>
<td>North Kansas City</td>
<td>Westwood</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Westwood Hills</td>
</tr>
</tbody>
</table>
Framework: Regional Elements

• Regional canopy coverage goal
• Integration through Regional Plan for Sustainable Development
  – Air and water quality
  – Transportation
  – Energy
  – Land use
  – Green infrastructure
A preliminary, aspirational regional canopy coverage goal

10% increase (28.6%) over 25 years

Goals in other communities range from 25 – 40%

Equivalent of approximately one tree/household every other year
Ecosystem benefits of 10% increase in canopy coverage over 25 years

• Adds $151M ecosystem services/year
• A total of $8B after 25 years

  – Air Pollution Removal: 1.0 million tons ($7.8 billion)
    • VOC Emissions: 3.1 million tons
  – Carbon sequestration: 9.4 million tons ($194 million)
Goal could be achieved by planting:

- Transportation rights-of-way (25% of land)
- Along streamways and parks (4% of riparian area in MetroGreen corridors)
- Parking lots (15% of land in region’s parking lots)
Framework: Local Elements

• Practical, flexible implementation in 4 categories:
  – Policy/planning
  – Design
  – Operations & maintenance
  – Education/engagement
## POLICY AND PLANNING FRAMEWORK

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>REGIONAL ACTION (EXAMPLE)</th>
<th>LOCAL ACTION (EXAMPLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLICY &amp; PLANNING</td>
<td>Plan Integration</td>
<td>Adopt Tree Protection and Replacement Ordinances</td>
</tr>
<tr>
<td>URBAN DESIGN</td>
<td>MetroGreen</td>
<td>Implement conservation-focused stormwater BMPs and sustainable site design</td>
</tr>
<tr>
<td>OPERATIONS &amp; MAINTENANCE</td>
<td>Workforce Development</td>
<td>Create public – private partnerships for tree care</td>
</tr>
<tr>
<td>ENGAGEMENT &amp; EDUCATION</td>
<td>Public Relations / Outreach</td>
<td>Implement Regional Tree Fund; Support Heartland Tree Alliance</td>
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LOCAL CASE STUDIES:
SELECTED LOCAL CASE STUDIES

- City of Kansas City, MO  
  Tree Replacement Policy
- City of Liberty, MO  
  TreeLiberty
- City of Overland Park, KS  
  Ordinances/Design Stds.
- City of Raymore, MO  
  Tree Protection Plan
- Heartland Tree Alliance  
  Education, Volunteers
- Johnson County, KS  
  Biodiversity Policy
CONTACT:

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