Avalon Green Alley South
Anticipated Impact

<table>
<thead>
<tr>
<th>Tributary Area</th>
<th>Infiltration Rate</th>
<th>Volume of Storage Provided</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.44 acres</td>
<td>12 in/hr</td>
<td>5,560 cf</td>
</tr>
</tbody>
</table>

~85% impermeable surfaces and pavement in South LA

28% of South LA residents live below the poverty line

expected to reduce up to 90% bacterial loads for 20,000 people per square mile
Climate-Smart = Low-Carbon + Resilient
Cities Are Carbon Efficient with Room for Improvement

5-10% Peak Energy Use Due to Heat Islands

http://coolclimate.berkeley.edu/maps
Heat Is Sometimes Overlooked As Vulnerability—Whose Responsibility?

10X Increase in Heat-Related Deaths by 2057
Program Objective: Deploy Green Infrastructure within Climate-Smart Cities Framework

Connect

Cool

Absorb

Protect
Program Objective: Deploy Green Infrastructure within Climate-Smart Cities Framework

Connect
Absorb
Cool
Protect
Vulnerable Populations
Program Objective: Help Cities Identify and Integrate Levers for Green Infrastructure

- Parks
- Transit
- Health
- Water
- Development

Multiple Benefit GI
Delivering Climate-Smart Cities: Our Integrated Approach

Climate-Smart City Partnership

Implementation

GIS Decision Support

Applied Research

Georgia Tech

UCLA

Arizona State University
CLIMATE-SMART CITIES
harnessing local innovations
for national leadership

Shaun O’Rourke
Green Infrastructure Director
shaun.orourke@tpl.org
**Preliminary Ecosystem Services**

**Provisioning**
- Food
- Fresh water
- Wood and fiber
- Fuel
- ...

**Water Provisioning**
- Water reuse

**Supporting**
- Nutrient cycling
- Soil formation
- Primary production
- ...

**Regulating**
- Climate regulation
- Flood regulation
- Disease regulation
- Water purification
- ...

**Cultural**
- Aesthetic
- Spiritual
- Educational
- Recreational
- ...

**Food Provisioning**
- Urban agriculture
Preliminary Ecosystem Services

ECOSYSTEM SERVICES

Provisioning
- FOOD
- FRESH WATER
- WOOD AND FIBER
- FUEL
- ...

Supporting
- NUTRIENT CYCLING
- SOIL FORMATION
- PRIMARY PRODUCTION
- ...

Regulating
- CLIMATE REGULATION
- FLOOD REGULATION
- DISEASE REGULATION
- WATER PURIFICATION
- ...

Cultural
- AESTHETIC
- SPIRITUAL
- EDUCATIONAL
- RECREATIONAL
- ...

Water Regulation
- CSO reduction

Climate Regulation
- Heat island reduction

Flood Regulation
- Reduce flooding instances
Preliminary Ecosystem Services

ECOSYSTEM SERVICES

Provisioning
- FOOD
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- ...

Educational Cultural Services
- Capacity building and green jobs

Recreational Cultural Services
- Improve fitness opportunities

Spiritual Cultural Services
- Substance abuse support
- Mental health services support
Service Gap Score Per Grid

Food Provisioning
• Urban agriculture opportunities (A)

Water Provisioning
• Water reuse (B)

Water Regulation
• CSO reduction (C)

Climate Regulation
• Heat island reduction (D)

Flood Regulation
• Reduce flooding instances (E)

Educational Cultural Services
• Capacity building and green jobs (F)

Recreational Cultural Services
• Improve fitness opportunities (G)

<table>
<thead>
<tr>
<th>Median Household Income ($/yr)</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x \leq 15,000</td>
<td>High</td>
</tr>
<tr>
<td>$15,000 &lt; x \leq 30,000</td>
<td>Medium</td>
</tr>
<tr>
<td>$30,000 &lt; x \leq 42,000</td>
<td>Low</td>
</tr>
</tbody>
</table>

A, B, C… is Service Gap Rating (High, Medium, Low)
Incorporate Ecosystem Services with TPL GIS Tool

Food Provisioning
- Urban agriculture opportunities (A)(a)

Water Provisioning
- Water reuse (B)(b)

Water Regulation
- CSO reduction (C)(c)

Climate Regulation
- Heat island reduction (D)(d)

Flood Regulation
- Reduce flooding instances (E)(e)

Educational Cultural Services
- Capacity building and green jobs (F)(f)

Recreational Cultural Services
- Improve fitness opportunities (G)(g)

Aggregate Score = Aa+Bb +Cc…

A, B, C = Service Gap Rating
a, b, c = Stakeholder Weighting
Identify Optimal Project Locations Per Sewershed
Develop Algorithm to Incorporate with GIS Tool
Green Alleys
Los Angeles, California
GREEN ALLEY

THE AILEEN GETTY FOUNDATION

THE TRUST FOR PUBLIC LAND
CONSERVING LAND FOR PEOPLE

WELLS FARGO

CITY OF LOS ANGELES
FOUNDER 1848
Boeddeker Park is the largest open space in the Tenderloin—San Francisco’s poorest, most dense and diverse neighborhood. Before the renovation this 1-acre park was undesirable and unsafe for the 50,000 people that live nearby, but the new community-driven design transformed the space into a safe and inviting space for all.