Strategies and Tips for Large Scale Data Collection and Automation

The Trust for Public Land’s ParkServe™
Our Mission

The Trust for Public Land creates parks and protects land for people, ensuring healthy, livable communities for generations to come.
Presentation Agenda

1. **Overview:** The Trust for Public Land as an organization

2. **Context:** ParkScore® and ParkServe™

3. **Strategies and Tips:** Collection, Creation, Loading and Modeling

4. **Conclusions:** Best Practices, Roadblocks and Limitations
The Trust for Public Land’s **ParkScore®**
<table>
<thead>
<tr>
<th>Rank</th>
<th>Population</th>
<th>Acreage</th>
<th>Services &amp; Investment</th>
<th>Access</th>
<th>Raw Score</th>
<th>ParkScore</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>379,969</td>
<td>27</td>
<td>32</td>
<td>38</td>
<td>97</td>
<td>81.0</td>
</tr>
<tr>
<td>50</td>
<td>468,337</td>
<td>10</td>
<td>7</td>
<td>16</td>
<td>33</td>
<td>27.5</td>
</tr>
</tbody>
</table>

- Median Park Size: 12 (MAX 20)
- Park Land as % of City Area: 15 (MAX 20)
- Spending per Resident: 20 (MAX 20)
- Playgrounds per 10,000 Residents: 12 (MAX 20)
What is ParkServe™?

• Taking ParkScore® to scale
• Focus on 2 metrics for all urban areas in the US:
  – Park access: 10-minute walk analysis
  – Acreage: median park size and park acres as % of urban area
• ParkServe at 100% would summarize 10 minute walk park access for:
  – 89% of Americans
  – 88% of American households earning less than $35,000 per year
  – 95% of all persons of color

By May 1, 2018 ParkServe aims to map parks in:

- All **3,573** US Census 2010 defined Urban Areas-Urban Clusters which intersect:
  - **13,931** US Census 2010 places (including 12,762 Cities)
  - **2,494** of 3,143 US counties (70%)
  - All **405** MPOs (US DOT)
  - All **50** States
ParkServe™ Data Model Audit

Total # Unique Field Names 9,227 (27%)
ParkServe™ Core Collection Toolset

1.0
- Anaconda Spyder - 10.3
- Microsoft Excel 2013
- ArcMap - 10.3
- SQL Management Studio
- Microsoft InfoPath 2013
- Power BI Desktop
- Web AppBuilder

2.0
- ArcGIS API
- GeoForms
- Insight
ParkServe™ Collection Overview
ParkServe™ Collection

2) Query for Existing Contacts

Agency State:  OR  Agency Place:  OR  Agency Name:

Run Query for Existing Contacts (Note: Contacts must exist in the database for query to return a result)

3) Update or Enter New Contact and/or Agency Information:

Created/Edited By:  Date Created:  Date Edited:  Status:  TPL Purpose:  Best Contact:

Contact Name First:  Contact Name Last:  Contact Title:  Contact Role:  Contact Email:

Contact Address:  Contact State:  Contact Place:  URL to List of Parks or Static/Dynamic Map:

Agency Name:  Agency Level:  Agency Email:  Agency Phone:  Agency Phone Ext:

Agency Street Address:  Agency State:  Agency Place:  Agency URL:

Contact/Agency Notes:
# ParkServe™ Collection

## Update or Enter New Communication Below:

### Communication By:

- **Agency State**: [Dropdown]
- **Agency Place**: [Dropdown]

### Communication Event:

- **Select...**

### Communication Status:

- **Select...**

### Date of 1st Communication:

- **Communication Type**:
  - [Dropdown]
  - [Box]: Email
  - [Box]: Call (only if there is no email address listed)

#### 1st Communication Comments/Notes:

- [Character Count]

### Date of 2nd Communication:

- **Communication Type**:
  - [Dropdown]
  - [Box]: Call
  - [Box]: Call/Email (if voicemail is left, send email in addition)

#### 2nd Communication Comments/Notes:

### Date of Final Communication:

- **Communication Type**:
  - [Dropdown]
  - [Box]: Call
  - [Box]: Call/Email

#### Further Follow-Up Recommended:

- [Box]: Yes
- [Box]: No

#### 3rd Communication Comments/Notes:

### Microsoft InfoPath

![Microsoft InfoPath](image)

### THE TRUST FOR PUBLIC LAND

![The Trust for Public Land](image)

### Table:

<table>
<thead>
<tr>
<th>ParkServe_Consultation_Seen_YN</th>
<th>ParkServe_Park_DataCollect_YN</th>
<th>NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>No</td>
<td>Salisbury CDP</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>Bellingham CDP</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>North Westport CDP</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>Narragansett Pier CDP</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>Ocean Grove CDP</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>North Seekonk CDP</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>Essex CDP</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>Rowley CDP</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>Townsend CDP</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td>Melville CDP</td>
</tr>
</tbody>
</table>
for root, dirs, files in os.walk(r'X:\GIS_PROJECTS\NATIONAL\ParkServe\Collection\Downloads'):  
    if ('__' in os.path.basename(root) and '.gdb' not in os.path.basename(root)):  
        mxd_template.saveACopy(os.path.join(root, os.path.basename(root)+'.mxd')) 
    elif 'Statewide' in os.path.basename(root) and '.gdb' not in os.path.basename(root):  
        mxd_template.saveACopy(os.path.join(root, os.path.dirname(root).split('/\')[1]+'__'+os.path.basename(root)+'.mxd'))
ParkServe™ Data Creation

Table Of Contents

- **Data**
- **ParkServe_DataCreation.tbx**
  - Custom Append Tool - Parent Data
  - ESRI_Parks_1.shp
  - ESRI_Parks_2.shp
  - GNIS_Park_Locations.shp
  - ParkServe_Places.shp
  - Template_SHP.shp
  - Template_SHP_Edited.shp
  - Template_SHP_Edited_2.shp

- **Layers**
  - **Florida_Acacia_Villas_DataCreate**
  - **GNIS_Park_Locations**
  - **ParkServe_Places**
  - **ESRI_Parks_1**
  - **ESRI_Parks_2**
  - **Basemap**
    - **OpenStreetMap**
  - **Basemap**
    - **World Imagery**

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<table>
<thead>
<tr>
<th>No.</th>
<th>Facility Name</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>Arrowhead Park</td>
<td>1005 NW 209 Street</td>
</tr>
<tr>
<td>P2</td>
<td>Brentwood Park</td>
<td>19405 NW 32 Avenue</td>
</tr>
<tr>
<td>P3</td>
<td>Buccaneer Park</td>
<td>3100 NW 207 Street</td>
</tr>
<tr>
<td>P4</td>
<td>Bunch Park</td>
<td>15000 Bunch Pk Drive West</td>
</tr>
<tr>
<td>P5</td>
<td>Carroll Park</td>
<td>4250 NW 178 Street</td>
</tr>
<tr>
<td>P6</td>
<td>Cleveland Park</td>
<td>302 NW 191 Street</td>
</tr>
<tr>
<td>P7</td>
<td>Library Walking Trail</td>
<td>n/a</td>
</tr>
<tr>
<td>P8</td>
<td>Bennett M. Litter Park (Previously Lake Lucerne Park)</td>
<td>20/101 NW 22 Avenue</td>
</tr>
<tr>
<td>P9</td>
<td>Miami Carol City Park Complex</td>
<td>2201 NW 165 Street</td>
</tr>
<tr>
<td>P10</td>
<td>Myrtle Grove Park/Pool</td>
<td>3600 NW 179 Street</td>
</tr>
<tr>
<td>P11</td>
<td>Northside Optimist Park</td>
<td>1465 NW 12 Ave</td>
</tr>
<tr>
<td>P12</td>
<td>Norwood Park/Pool</td>
<td>19401 NW 14 Avenue</td>
</tr>
<tr>
<td>P13</td>
<td>Rosco Park</td>
<td>17010 NW 39 Avenue</td>
</tr>
<tr>
<td>P14</td>
<td>Rolling Oaks Park</td>
<td>18701 NW 17 Court</td>
</tr>
<tr>
<td>P15</td>
<td>Scott Park</td>
<td>17710 NW 15 Court</td>
</tr>
<tr>
<td>P16</td>
<td>Vista Verde Park</td>
<td>21011 NW 39 Avenue</td>
</tr>
<tr>
<td>P17</td>
<td>Miami Gardens Community Center</td>
<td>9800 NW 169 Street</td>
</tr>
<tr>
<td>P18</td>
<td>Brentwood Pool</td>
<td>18800 NW 28 Place</td>
</tr>
<tr>
<td>P19</td>
<td>Bunch Park</td>
<td>15727 NW 22 Avenue</td>
</tr>
<tr>
<td>P20</td>
<td>Snake Creek Bike Trail (Proposed/Approved)</td>
<td>n/a</td>
</tr>
</tbody>
</table>
ParkServe™ Reporting

# of Parks Datasets from Priority Counties In-House

- Yes: 90
- No: 237
- To Be Collected: 165

# of Parks Datasets from Priority Places In-House

- Yes: 548
- No: 2495
- To Be Collected: 264
- New/No ID: 165
- Peer/Data Requested: 169
- Need to Create: 126

Total Progress for Priority Counties

- Yes (90)
- No (2)
- To Be Collected (165)

Total Progress for Priority Places

- Yes - Created (1150)
- Peer/Data Requested (169)
- Need to Create (126)
- New/No ID (165)
- To Be Collected (264)

# of Priority Places Assigned

- 3164

# Priority Places Web Searched and/or Contacted

- 2895
ParkServe™ Reporting
ParkServe™ Data Loading

This script appends the input feature class or shapefile ParkServe data collection to an EXISTING FEATURE CLASS (Parks_Poly) in the output ParkServe Parks geodatabase. Field mappings are created for required PAD-US attributes, listed first, as well as all other variables included in the ParkServe Parks Polygon feature class schema.
ParkServe™ Modeling
ParkServe™ Roadblocks and Limitations

• “Ooh la la” Principle
  – I wish that I knew what I know now, when I was younger...

• Data Model Evolution
  – Start simple and add complexity as necessary

• Data Collection Workflow
  – More testing/development before scaling up
  – Speed/Progress vs. Efficiency

• Limited Funding Resources
  – Everything built from scratch
  – Learning process for whole team
Thank you!