Neighborhood Parks and Active Living (NPAL)

Phase I: Setting the Stage

Active Living Research Conference
February 25, 2005
NPAL Conceptual Approach

Multi-Level Factors:  As Predictors of:

- Individual factors
- Parks attributes
- Park connectivity
- Neighborhood attributes
- Other factors

- Park Use
- Physical Activity
Study Design

Phase I: Descriptive Study
- Understand park use dynamics
- Refine hypotheses
- Identify potential predictors

Phase II: Analytical Case-Control Study
Phase I: Descriptive Study

• Methods
  – Park selection and features assessment
  – Intercept surveys and physical activity assessment

• Preliminary findings park users, patterns of park use, and physical activity

• Examine residential location and travel patterns to parks
  – Neighborhood connectivity
Park Selection

**Goal**: Maximize variability across park types and demographic characteristics of park neighborhoods

- **Study site**
  - DeKalb County, GA
  - Urban core county in metro Atlanta
  - Racially/ethnically diverse
  - Diverse park types
Park Selection

• Database of DeKalb Co. Parks
  – facilities, census tract data (income, race, etc.), crime data, etc.

• Site visits

• Consulted with parks and recreation administrators and staff
## Park Characteristics

<table>
<thead>
<tr>
<th>Park Name</th>
<th>Size (acres)</th>
<th>On-Site Staff</th>
<th>Nature trails</th>
<th>Walking paths</th>
<th>Ballfields</th>
<th>Open fields</th>
<th>Rec center</th>
<th>Courts</th>
<th>Pool</th>
<th>Play equipment</th>
<th>Lake</th>
<th>Number violent crimes in 2003</th>
<th>% non-Hispanic</th>
<th>% Hispanic</th>
<th>Median income</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bouldercrest</td>
<td>28</td>
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<td>NA</td>
<td>90 1 49,497</td>
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<tr>
<td>Briarwood</td>
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<td>31 33 40,352</td>
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<tr>
<td>Dresden</td>
<td>24</td>
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<td>18 54 42,892</td>
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<tr>
<td>Freedom¹</td>
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<td>75 2 62,305</td>
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<tr>
<td>Mason Mill</td>
<td>111</td>
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<td>5 1 53,688</td>
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<td>McDaniel</td>
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<td>Shoal Creek II</td>
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<td>81 0 23,894</td>
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</table>

¹Freedom park is a linear park
²Supports youth sports programs
³Children's play area and equipment closed all season for repairs
⁴2000 Census tract data
Park Features Assessment

Modified park features instrument: A. Bedimo-Rung, B. Saelens (ALR Round 1 grantees)

• Inventory of park features
• Condition and accessibility
Intercept Surveys and Physical Activity Assessments

**Goal:** Characterize park users, patterns of park use, physical activity, daily conditions

- June – August, 2004
- 8 days per park
  - 4 weekdays
  - 4 weekend days
- 14 hours per day (6:30AM – 8:30PM)
Data collection team

- Diverse
- “Well-marked”
- Well trained

All data collected using PDAs
Intercept surveys

- Stationed at entrances and exits
- 13 intercept questions

- Intercepted 6+ years old
- Spanish and English
Direct Observation of Physical Activity

Divided parks into activity scanning areas for observation

Also recorded number crossing line on trails

McKenzie 2002
McKenzie & Cohen 2004
Results...
Intercept Surveys and Physical Activity Assessment

• 2,800 completed valid surveys
  – Overall response rate 60%
    • Varied between 50-70% by park
  – Children under age of 18 not included
• Over 12,000 physical activity assessments
  – Good reliability
“Sex” of Respondents

Overall: 55% males; 45% females
“Race” of Respondents

- White: 60%
- Black: 32%
- Asian: 3%
- Multirace: 3%
- Other: 2%
- Black: 32%
- White: 60%
“Race” of Respondent by Park

- Bouldercrest
- Briarwood
- Dresden
- Freedom
- Hairston
- Mason Mill
- McDaniel
- Murphey Candler
- Oakhurst
- Redan
- Shoal Creek
- Tobie Grant
“Frequency of Park Visits”

- First time: 10%
- 1 day/wk or less: 40%
- 2-4 days/week: 30%
- 5 or more days/week: 20%
Who are “Frequent Park Visitors”? 

- Females
- Travel to park on foot or by bike
- White
- Dog walkers
- Adults taking kids to park
“Percent of Weekly Exercise in Park”

- Less than 25%
- 25%-50%
- Greater than 50%
Who reports “Greater % Exercise in Parks”?

- Males
- Hispanic
- White
- Travel to park on foot or by bike
- Frequent park users
Physical Activity Across All Parks
Physical Activity by Park

The image shows a bar chart titled "Physical Activity by Park." The chart compares the percentage of physical activities in different parks, categorized as Vigorous, Moderate, Light, and Inactive. Each park is represented by a bar, and the percentage is shown on the y-axis, ranging from 0% to 60%. The parks listed include Bouldercrest, Briarwood, Dresden, Freedom, Hairston, Mason Mill, McDaniel, Oakhurst, Redan, Shoal Creek, and Tobie Grant. The bars are color-coded to indicate the type of activity: 
- Vigorous: Blue
- Moderate: Brown
- Light: Yellow
- Inactive: Green
Physical Activity by Age Categories

- Children
- Teens
- Adults
- Seniors

Categories:
- Vigorous
- Moderate
- Light
- Inactive

Graph shows the percentage of people in each age group engaging in different levels of physical activity.
Physical Activity by Sex

Vigorous  Moderate  Light  Inactive

% Female  % Male

- Vigorous: % Female < % Male
- Moderate: % Female > % Male
- Light: % Female > % Male
- Inactive: % Female < % Male
Travel Patterns to Park

• Mode to park
• Residential location by mode
Travel Mode to Park

Overall: 69% motorized; 31% non-motorized
Travel Mode to Parks

Non-Motorized
- Frequent park visitors (40% visit park more than 5 times per week)
- Women
- Get more exercise at park (40% get more than 50% of weekly exercise at park)

Motorized
- Infrequent park visitors (45% visit park 1 day per week or less)
- Men
- Get little or no exercise at parks (40%)
Greater car use related to neighborhood characteristics and connectivity?

Aerial photo Hairston Park  
GIS Center, Georgia Inst. of Tech.
Greater car use related to neighborhood characteristics and connectivity?

- Single entrance along busy roadway
- No sidewalks

Hairston Park
Greater walkability associated with neighborhood configuration and connectivity?

More gridded street pattern

Aerial photo Tobie Grant Park
GIS Center, Georgia Inst. of Tech.
Greater walkability associated with neighborhood configuration and connectivity?

Multiple park entrances

Sidewalks

Tobie Grant Park
Summary of Phase I Efforts

- Characterized variability in patterns of use and physical activity across parks and among users
- Identified potential predictors of park use and physical activity in parks
- Developing park “catchment” areas for selection of controls

⇒ Summer 2005 - Phase II (case control study)
NPAL Research Team

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