Environmental Assessment of Public Recreation Spaces

Preliminary Data for ALR Conference

Brian E. Saelens, Lawrence D. Frank,
Christopher Auffrey, Lauren Elise Leary,
Robert C. Whitaker, Hillary Burdette

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Goals

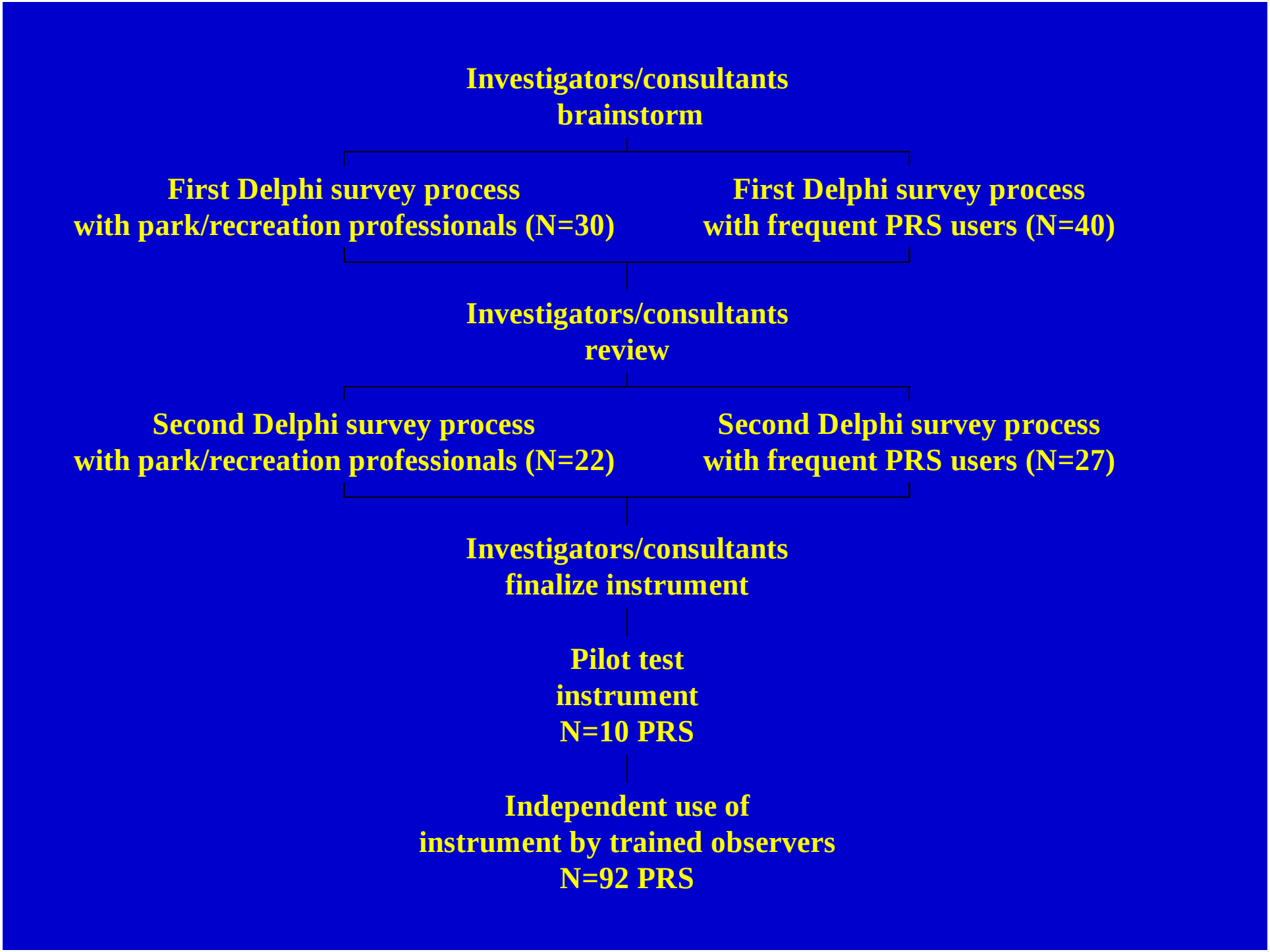
- Review aims and definitions
- Describe procedures and results for instrument development
- Report on preliminary reliability data for elements and aspects
- Review context evaluation

Primary Aim

- To develop and evaluate the psychometrics of a direct observation instrument for the environmental assessment of public recreation space (PRS) elements and contexts

Definitions

- Elements – observable (usually visually) and usually immutable entities within parks and/or playgrounds (things that exist or not and can be counted)
  - E.g., trails, paths, bathrooms, swings
- Aspects –observable qualities of elements (things generally considered when evaluating the quality of an element; generally rated on continuous scales)
  - E.g., condition, cleanliness, width, tree coverage of a trail
- Context – the environment in which a park or playground exists
  - E.g., pedestrian, land use proximities, geographic


Investigators/consultants
brainstorm
First Delphi survey process
with park/recreation professionals (N=30)
First Delphi survey process
with frequent PRS users (N=40)
Investigators/consultants
review
Second Delphi survey process
with park/recreation professionals (N=22)
Second Delphi survey process
with frequent PRS users (N=27)
Investigators/consultants
finalize instrument
Pilot test
instrument
N=10 PRS
Independent use of
instrument by trained observers
N=92 PRS

First Survey

- Elicit elements of park and playground environments through
  - Activity prompts (e.g., walk/stroll, rest, exercise alone and with others)
  - Park types (e.g., neighborhood or community parks, urban/regional parks)
  - Queries about promoting use (e.g., encourage more use?)
  - Age specificity
- Over 100 unique elements were identified by professionals and frequent park users

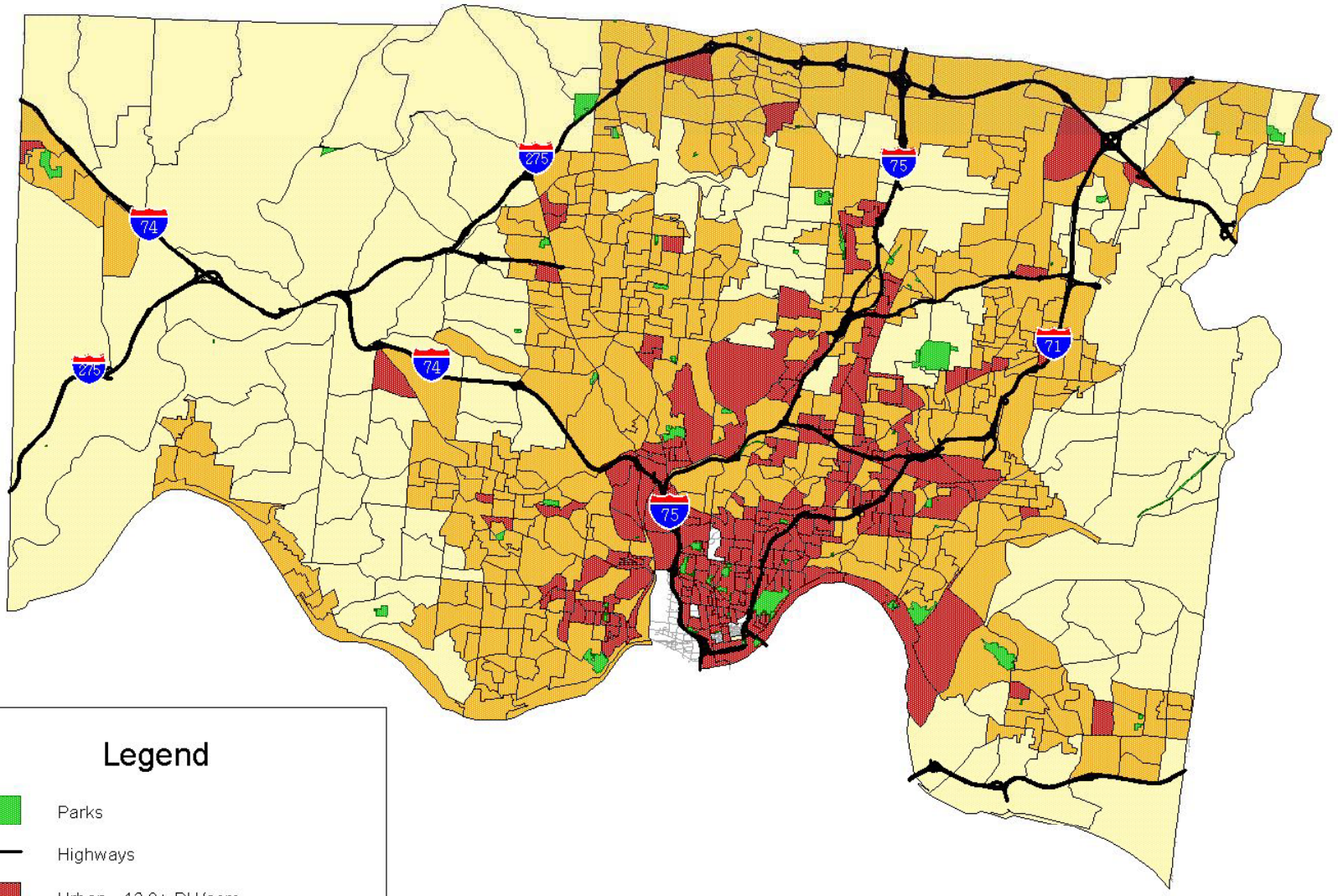
PRS element categories	Example elements
Trails and paths	Signage, surface, places to sit, access
Water areas	Ponds/lakes, fountains, swimming pools
Access	Parking lots, bike racks, sidewalks
Aesthetics	Views, sculpture/art, trash cans, planted trees, flowers
Comfort facilities	Restrooms, shelters, concessions, picnic area
Information	Signage, maps, events postings
Educational	Historical markers, displays, nature center
Specific areas	Open space, meadows, wooded areas
Safety-related	Lighting, telephones
Seating	Benches, tables, bleachers
Play equipment	Ground surface, things to slide down, things to stand on
Play areas	Swings, blacktop games, sand/digging areas
Athletic areas	Fields, courts, skate areas

Second Survey

- Elicit aspects of the elements identified in Survey 1
  - e.g. things to slide down
    - Condition, cleanliness, height, width, material, secured to ground, softness of landing area, drainage of landing area, directional facing
- Constitutes the items (elements & aspects) on the direct observation instrument
  - Presence, specific aspects, proximities

Park Selection Process

- Access to ‘open space’ data base within Hamilton County
- Public and general recreational
  - Owned and maintained by a jurisdiction
  - Eliminate golf courses and other activity specific recreational areas
- N=383 parks met these criteria
- Selected based on location and size
  - Urban, urban periphery, and suburban
  - <5 acres (pocket), 5 – 50 acres (community), > 50 acres (regional)



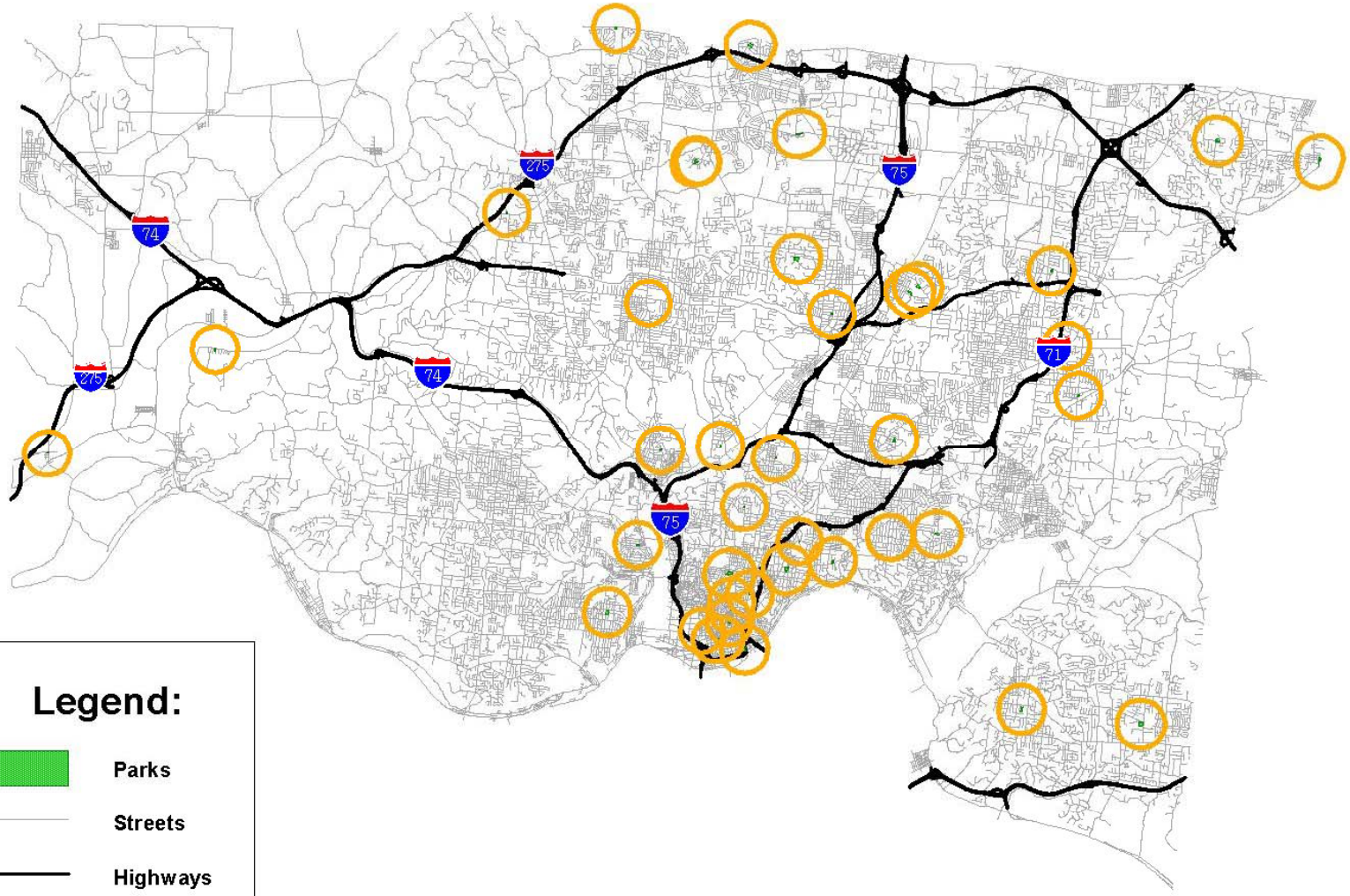
Legend

- Parks
- Highways
- Urban - 12.0+ DU/acre
- Urban Periphery - 3.0 -11.9 DU/acre
- Suburban - 0 - 2.9 DU/acre

0 5 10 15 Miles

N

POCKET PARKS



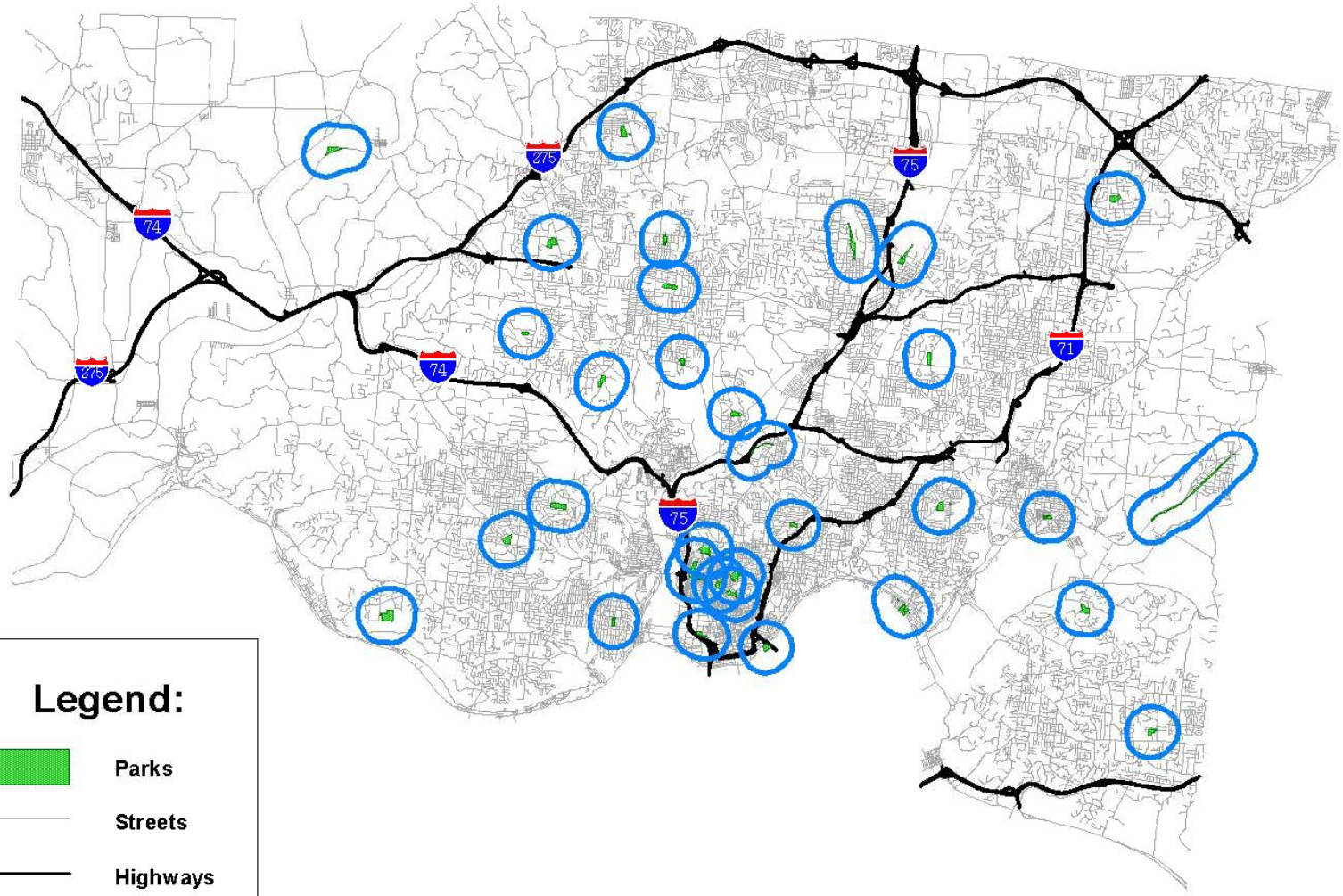
Legend:

- Parks
- Streets
- Highways

0 5 10 15 Miles

N

COMMUNITY PARKS



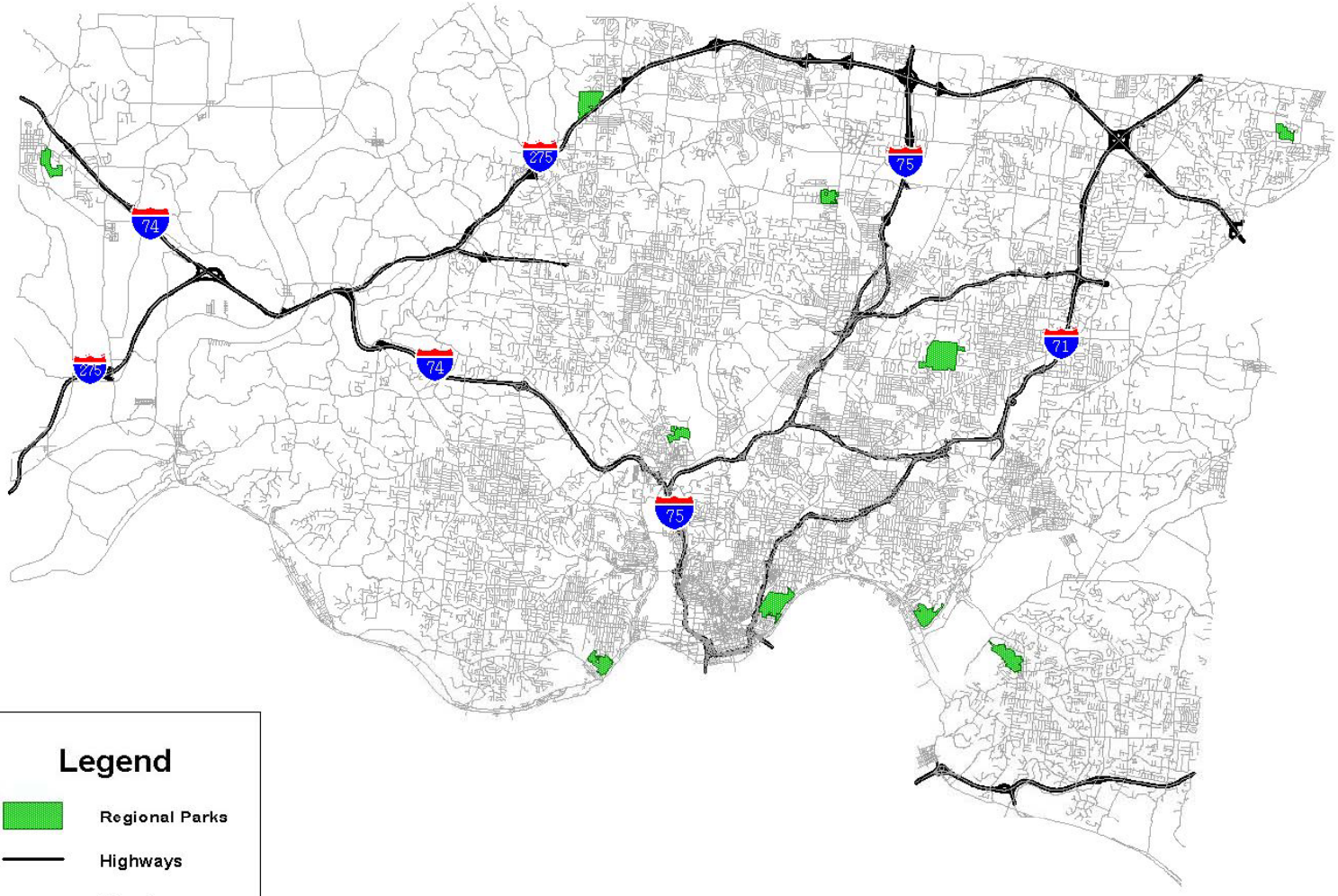
Legend:

- Parks
- Streets
- Highways

0 5 10 15 Miles

N

REGIONAL PARKS



Legend

- Regional Parks
- Highways
- Streets

0 5 10 15 Miles

N

Reliability Results
Example ‘Active Features’

- N=28 parks analyzed to date
  - 14 pocket parks
  - 8 community parks
  - 6 regional parks
- Observed independently by two raters using instrument
- Range in observation time from 35 minutes to 6 hours
- Analyses used
  - Presence/absence – percent agreement (0 – 100%)
  - Continuous rating – intra-class correlation (0 – 1.0)

Aspect	Rating	Scale	Variability	Considerations
Path presence	Yes No			If none present, go to section C
Paved	Yes No		1 2 3	
Material	Asphalt Concrete Dirt Gravel Brick Wood chip Grass		1 2 3	Circle predominant material (only one response)
Condition	1 2 3 4 5	PEX	1 2 3	standard condition
Smoothness	1 2 3 4 5	NATE	1 2 3	rate independent of material type; consider holes, cracks, tree branches underneath surface
Width	1 2 3 4 5		1 2 3	<2 feet (1 adult only); 2-5 feet wide (2 adults; sidewalk width); >5-8 feet wide (3 adults); >8-11 feet wide (4 adults); >11 feet wide
Cleanliness	1 2 3 4 5	NATE	1 2 3	standard cleanliness, plus consider mud, rocks, twigs
Flatness	1 2 3 4 5	NATE	1 2 3	
Continuity	1 2 3 4 5	NATE	1 2 3	continuous surface throughout length of path?
Coverage/shade	Yes No		1 2 3	standard coverage/shade
Drainage	Yes No		1 2 3	
Obstructions	Yes No		1 2 3	trees, shrubs, and other things that intrude upon the path; anything that reduces path width

Paved Trails

• Presence	89.3%	
• Signage	88.9%	
• Places to sit	87.5%	
• Length		.90
• Flatness		.87
• Number		.79
• Condition		.54
• Continuity		.00
• Access points		.00

Swimming Pools

- Presence 94.1%
- Guard 50.0%
- Number 1.0
- Perimeter 1.0
- Size .70
- Condition .00
- Cleanliness .00

Playset

• Presence	100%	
• Number		.98
• Obstructions from seating	94.4%	
• Openness/visibility	72.2%	
• Seating proximity	72.2%	
• Things to swing on	100%	
– Height off ground		.84
– Condition		.77

Athletic Courts

- Playground proximity .75
- Surface condition .63
- Flatness/levelness .60
- Striping/line quality .24
- Perimeter 100%
- Drinking fountain availability 100%
- Components present 100%
- Lighting presence 91.7%

Potential Sources of Currently Low Reliability

- Small sample sizes for elements or especially aspects
  - Likely improved with full sample of parks
- Lack of variability in ratings assigned
  - Likely improved with parks with more aspect diversity (e.g., trail continuity, pool condition)
- Inadequate definition of items or value assignments
  - Likely improved with better instructions
- Temporal changes in environment (e.g., guards)

Next Steps

- Specify the context in which parks and playgrounds exist
- Use existing databases to provide estimates of the walkability of the area surrounding public recreation spaces
  - Residential density, land use mix, connectivity
- Conduct street segment observations to better assess park accessibility and pedestrian infrastructure

Criteria To Select Street Segments + Intersections Around Each Priority Park for Context Evaluation

Primary Criteria:

- Street segments on park periphery

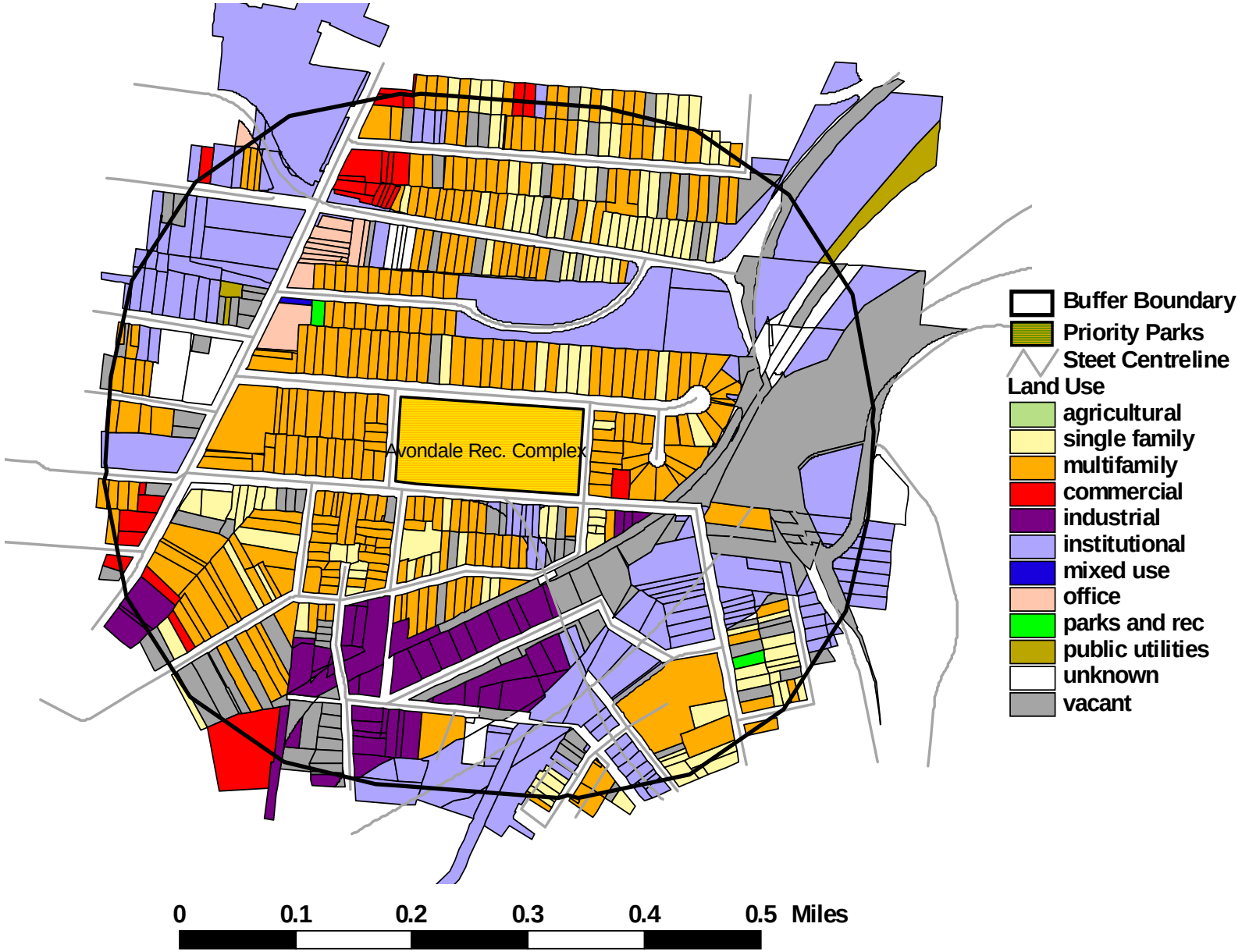
Secondary Criteria:

- Street segments with varied land use types (and segments in commercial core, if present)

Other filters:

- Structure year built, Geographic breadth, parcel size, and network typology

Avondale - Land Use

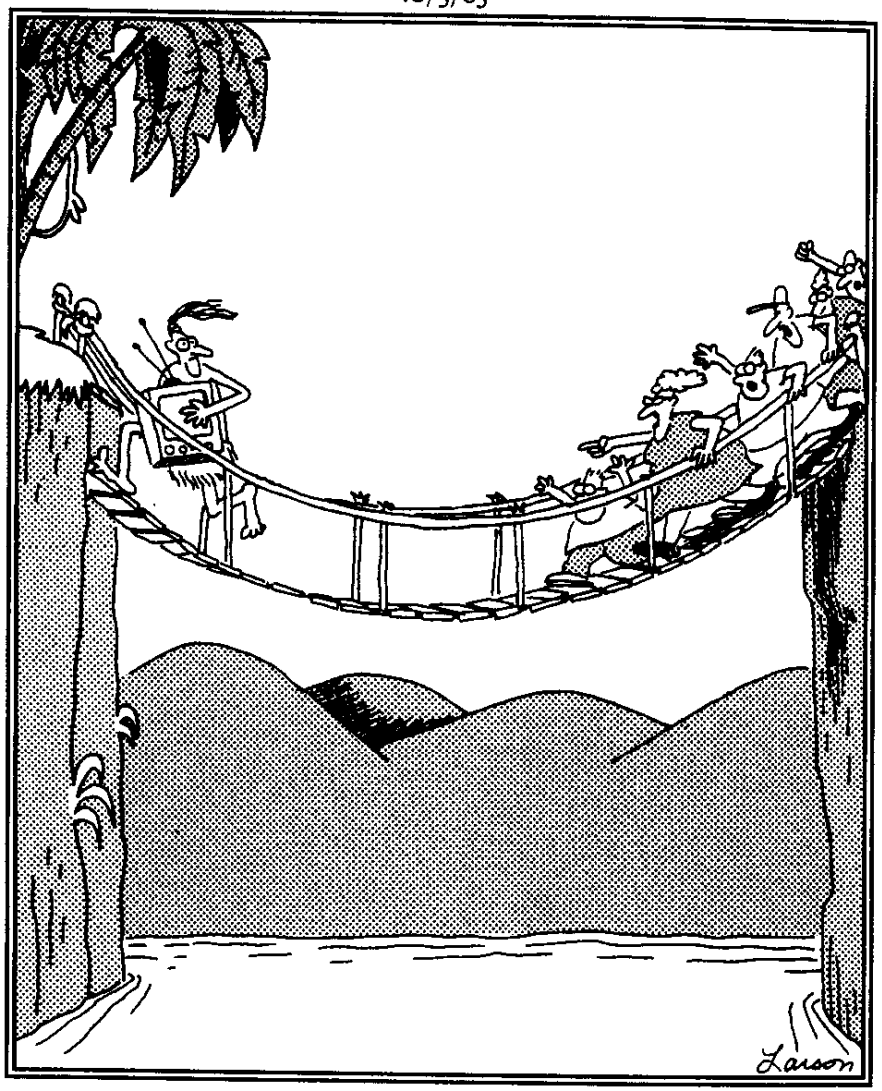


Avondale - Street Selection

Deliverables

- Modular park and playground observation tool with complete instructions for use
- Reliability values for individual elements and aspects
- Identification of variables that impact reliability estimates for common elements (e.g., park size, context, location)
- Examination of relations between park elements/aspects and context

10/5/85



After reaching the far side, Tonga cut the bridge—sending the outraged suburbanites into the river below. Their idol was now his ... as well as its curse.