

# Use of Fitness Zones in Brazil: is structure availability enough?

Active Living Research 2017

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## Background

The availability of spaces, structures and presence of equipment could facilitate differential use of open spaces for physical activity.



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Fitness Zones are seen as affordable by city planners (approx. US\$5,000 for a set of 30 items) and potentially motivate physical activity across age groups.



# Background



In the U.S., these structures are available by efforts from The Trust for Public Land

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## Background

In Curitiba, over 140 sets were installed since 2012



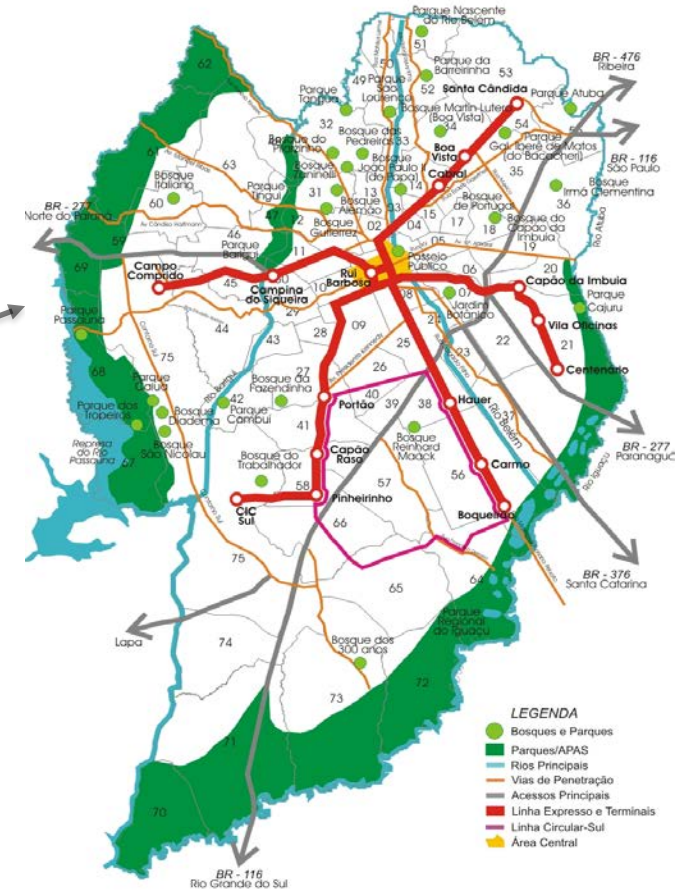
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## State of Paraná



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# City of Curitiba



Area: 166 mi<sup>2</sup>  
 Population: 1,879,355 (or 3 million)  
 HDI: 0.856  
 Green area density: 65 m<sup>2</sup>/person

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## Aims

1. To examine use of Fitness Zones by neighborhood income level
2. To identify the relationship between characteristics of use of Fitness Zones and physical activity levels



## Methods

2012

20 Fitness zones

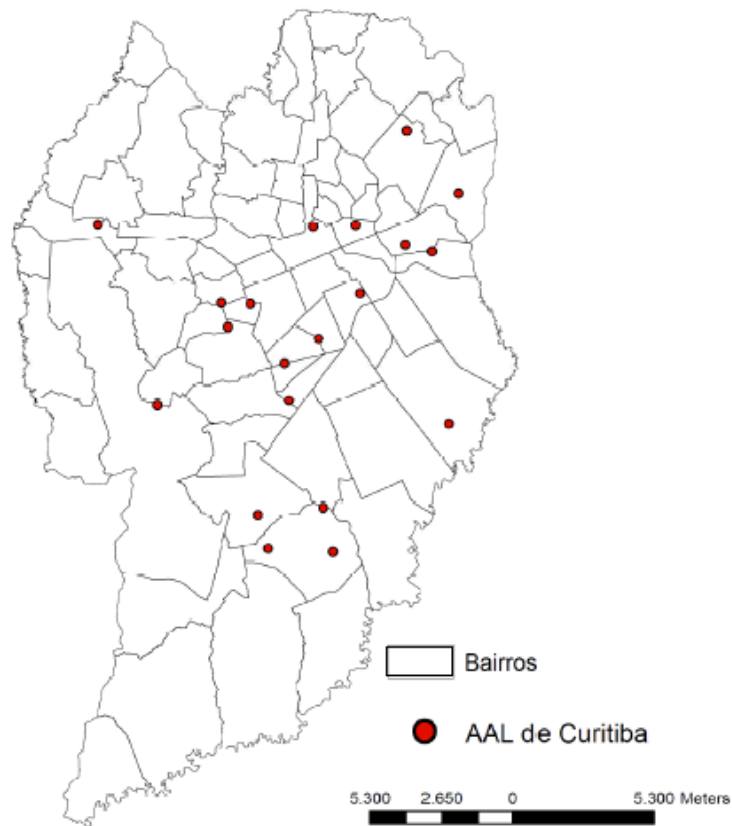
High versus low income neighborhoods

Median=R\$2,138 (approx. US\$610)

Systematic observations (SOPARC)

Survey

Audit (PARA)



## Systematic Observation (SOPARC)

Four days

Mondays, Thursdays, Saturdays and Sundays

Four 1-hour periods

8am, 11am, 2pm and 5pm

Four rounds within each hour

e.g. 8:00, 8:15, 8:30 and 8:45

Rain days

90% inter-observer reliability



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# Systematic Observation

**7** **Simulador de cavalgada**  
15 a 20 repetições.  
Descanse 1 minuto e repita mais 2 vezes

**8** **Remada sentada**  
15 a 20 repetições.  
Descanse 1 minuto e repita mais 2 vezes

Vigorous



**Desenvolvimento (ombros)**  
Eleve os braços sem estender totalmente os cotovelos e retorne cuidadosamente à posição inicial.  
12 a 15 repetições.  
Descanse 1 minuto e repita mais 2 vezes a série

## Overall results

2232 users were observed in total  
302 hours of observations

More users were observed using Fitness Zones in high income neighborhoods (56.9%;  $p < 0.001$ )

Women (57.4%)

Adults (56.9%)

Walking/Moderate activity (37.9%)

Results

	<b>Neighborhood Income</b>				$\chi^2$	<b>p</b>
	<b>Low</b>		<b>High</b>			
	<b>(n = 10)</b>		<b>(n = 10)</b>			
	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>		
<b>Age group</b>						
Children	125	13.0	172	13.5	34.2	<0.001
Adolescents	126	13.1	75	5.9		
Adults	521	54.2	750	59.1		
Older adults	190	19.8	273	21.5		

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Results

	<b>Neighborhood Income</b>				$\chi^2$	<b>p</b>
	<b>Low</b>		<b>High</b>			
	<b>(n = 10)</b>		<b>(n = 10)</b>			
	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>		
<b>Level of physical activity</b>						
Sedentary behavior	290	30.3	214	17.0	58.7	<0.001
Light	149	15.6	198	15.7		
Walking/moderate	330	34.4	509	40.5		
Vigorous	189	19.7	337	26.8		

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Results

	<b>Neighborhood Income</b>				$\chi^2$	<b>p</b>
	<b>Low</b>		<b>High</b>			
	<b>(n = 10)</b>		<b>(n = 10)</b>			
	<b>n</b>	<b>%</b>	<b>n</b>	<b>%</b>		
<b>Day of the week</b>						
Week	615	63.9	703	55.4	16.7	<0.001
Weekend	347	36.1	567	44.6		
<b>Occupied? *</b>						
No	350	53.8	229	41.0	19.7	<0.001
Yes	300	46.2	329	59.0		

*\*number of scans: n=1208*



## Logistic regression

		Sedentary/Light* versus MVPA	
		OR (95% CI)	p
<b>Gender</b>	Male	1.00	>0.05
	Female	1.19 (1.00-1.41)	
<b>Day of the week</b>	Week	1.00	>0.05
	Weekend	0.90 (0.75 - 1.07)	
<b>Neighborhood income</b>	Low	1.00	<b>&lt;0.005</b>
	High	1.74 (1.46 - 2.07)	

\*reference category; OR = odds ratio; 95% CI = 95% confidence interval.

## Limitations

- Cross-sectional study
- The surroundings were not assessed – park, plaza
- Work and travel physical activity in low income neighborhoods – substitution

Something to think about...

- No programs
- No orientation
- Older adults and Fitness Zones

## Conclusions

- The income of neighborhoods where Fitness Zones are located is associated with more frequent use and physical activity levels.
- The differential use of Fitness Zones across neighborhoods suggests something other than their presence is driving use and physical activity intensity.

## Conclusions

- Further research is necessary to determine if programming, marketing, or other strategies may reduce differences in use.

Thank you!



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