

# Examining Equal Access to Out-of-School Opportunities in Denver

Haowen Zheng, Sreekanth Krishnaiah, Karen Lavi, Joseph A. Abbate, Jose M. Hernandez, Kellie J. MacPhee, Andrew M. Taylor, and Sivan Tuchman

## 1 Introduction

### Motivation

- Experiences outside of the school day can be highly enriching.
- Students living in disadvantaged communities have less access to organizations or institutions that provide enrichment programs.
- ReSchool Colorado's Blueprint4Summer offers an online portal to bridge this gap.

## 2 Research Questions

How can data be leveraged to understand equality of access to out-of-school opportunities in Denver?

- What are the resources?
- How easy is it to get access?
- Are resources equally distributed?

## 3 Data

### Blueprint4Summer

Category (academics, arts, nature, sports, etc.), cost, location, and other program-specific characteristics.

### Denver Open Data

Parks, libraries, playgrounds, rec centers, etc.

### Census Demographics

### Denver Public Schools

Student demographics (race/ethnicity, disabilities, English language learners, residential locations)

Urban@UW [http://35.167.60.237:3838/osr\\_dssg2018/RShiny/app/](http://35.167.60.237:3838/osr_dssg2018/RShiny/app/)

CASCADIA URBAN  
ANALYTICS COOPERATIVE

GORDON AND BETTY  
MOORE  
FOUNDATION



CRPE  
REINVENTING  
PUBLIC EDUCATION

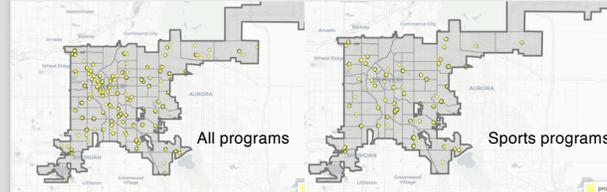
Washington Research  
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Microsoft

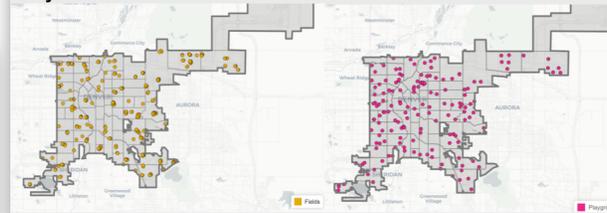
UNIVERSITY of WASHINGTON  
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## 4 Where are the resources?

Summer programs are unevenly distributed across the city

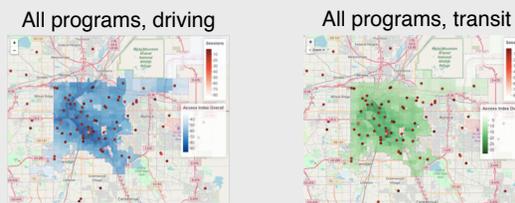


Public resources are evenly distributed across the city

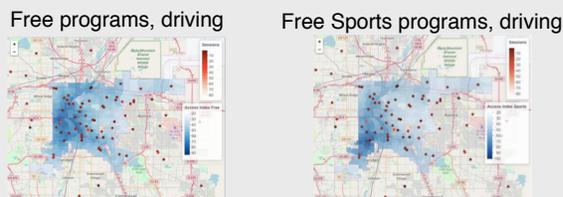


## 5 How easy is it to get access?

Transportation type doesn't alter access much



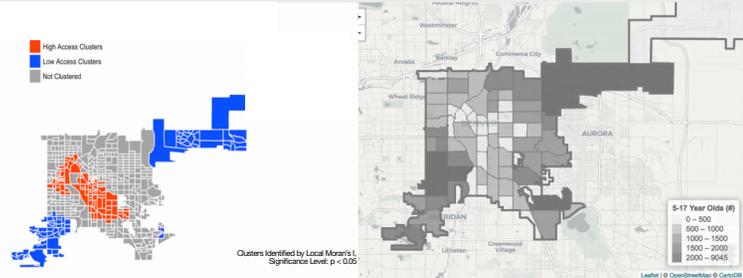
Some types of programs are more accessible to certain communities



$$A_{\text{block}}^{\text{type (transit mode)}} = \frac{1}{n_{\text{programs of type}}} \sum_{\text{programs of type}} f(T_{\text{block to program}}^{\text{transit mode}})$$

## 6 Are resources equally distributed?

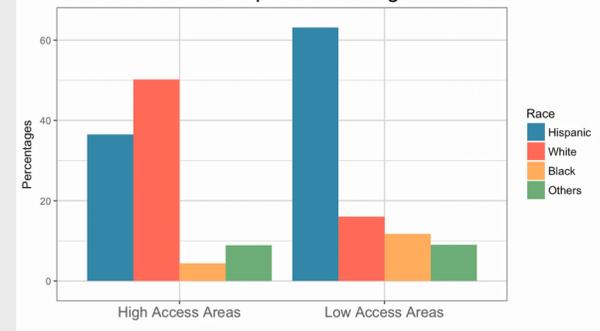
Access is concentrated in the center of the city where the fewest students live.



There is unequal access to opportunities by race

	All	Nature	Sports	Art	Academic	Free
Hispanic	63	64	54	68	67	56
White	68	70	63	70	68	50
Black	59	61	54	61	60	45
Other Races	62	64	57	65	64	49

Student Racial Composition for High/Low Access Areas



- Hispanic families are far more likely to live in Census block groups that have low access to these same opportunities.
- Black families are consistently located in neighborhoods with the lowest access to all types of out-of-school opportunities.