

# THE ECOLOGY OF WALKING TO SCHOOL

THE EXPERIENCE OF CHILDREN IN INNER CITY  
SAN DIEGO AND THE SAFETY OF ROUTES TO SCHOOL



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# Why this Research Matters?

## **SOCIAL & COGNITIVE DEVELOPMENT**

### **Growing up in cities**

Personal agency and competency

Dyckman (1961), Carr and Lynch (1968), Lynch (1976), Ward (1978)

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## **SAFETY**

### **Traffic**

(Un)Safe Routes to School

Boarnet et al. (2005), Wen et al. (2008)

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## **HEALTH**

### **Motorized travel**

Walking to school as daily physical activity

Baig et al. (2009), Martin et al. (2016)

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# Literature Gap

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Children's eye-view?

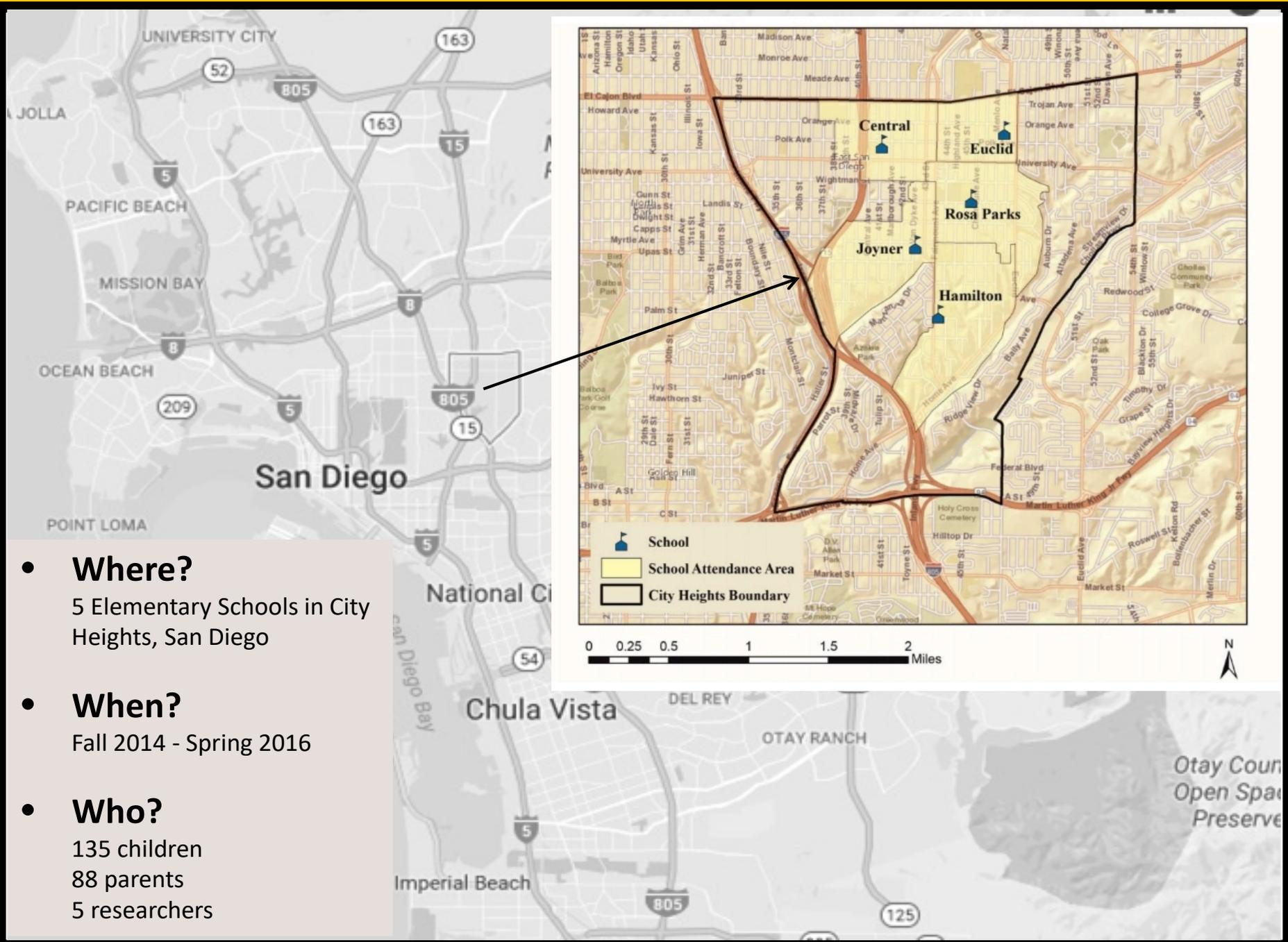
Walking to school in inner city neighborhoods?

(McMillan, 2005; Banerjee, Uhm & Bahl, 2014)

How does the **perception** of the **ecology of the neighborhood** (built environment & social milieu) affect **children's** walking **experience** to school

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- **Where?**

5 Elementary Schools in City Heights, San Diego

- **When?**

Fall 2014 - Spring 2016

- **Who?**

135 children  
88 parents  
5 researchers

# Study Area

	Street Network	School	Area (sq.m.)	Total Enroll.	Ethnicities (%) (1) Hispanic (2) Asian (3) African/Am	Free/Reduced Meal (%)
<b>Central</b>			0.31	789	78% 14% 6%	96%
<b>Euclid</b>			0.20	603	74% 14% 9%	91%
<b>Hamilton</b>			0.50	547	70% 13% 14%	84%
<b>Joyner</b>			0.43	699	79% 9% 9%	80%
<b>Rosa Parks</b>			0.39	928	80% 15% 3%	95%

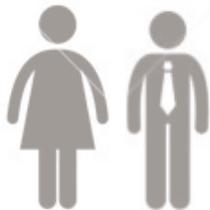
# Methods

CHILDREN



Cognitive and perception maps / focus group discussion / photo evaluation / surveys / activity diary

PARENTS



Survey questionnaires

RESEARCHERS



Field Reconnaissance / Geo-referencing

**Introduction  
and Consenting**

**Classroom session 1** - Children receive:

- Leaflet with explanations
- Parental consent form
- Parent survey questionnaire



**Visual  
Representation**

**Classroom session 2**

- Cognitive maps: a) Neighborhood b) Route to school
- Perception maps



**External  
Evaluation 1**

- Researchers take pictures of sites mentioned by children



**Structured and  
Verbal  
Representation**

**Classroom session 3**

- Children return parent survey questionnaire  
(current travel mode, perception of environmental risks, preferences for travel mode)
- Complete children survey questionnaires  
(current travel mode, experience, perception, preferences for travel mode)
- Group discussion: photo Evaluation



**External  
Evaluation 2**

- Researchers return to sites: assessment of built environment



# Preliminary Findings

## 1. Two distinct trips

- Walking to and walking from school are two different events

## 2. Acute awareness

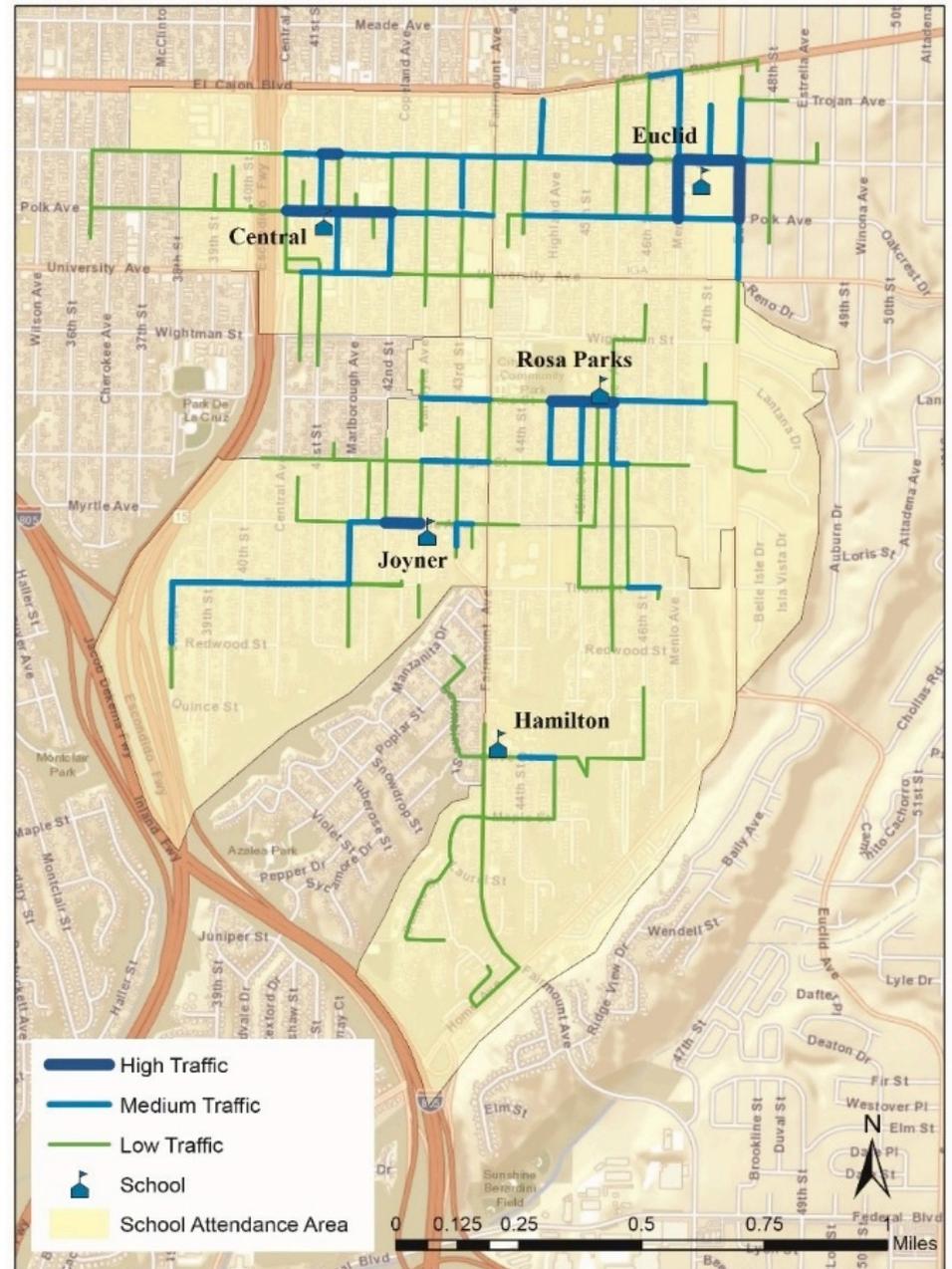
- Children show an acute awareness of risks and dangers

## 3. Different perceptions

- Children most concerned with social dangers vs. parents with traffic safety

# 1. Trips

- N = 78
- Average route = 0.43 mile



# 1. Two distinct trips

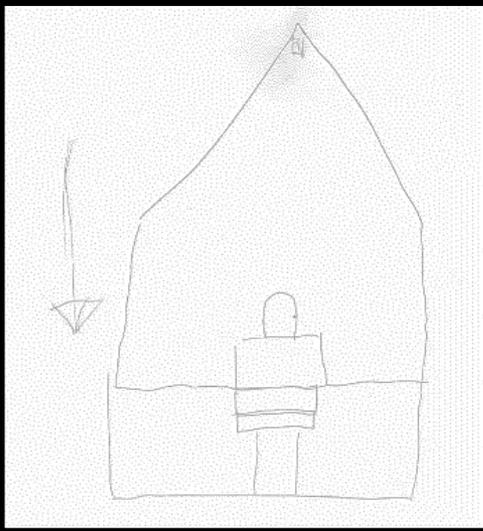
	To School		From School	
Walk	74	53%	80	58%
Car (incl. carpooling)	65	46%	56	40%
School Bus	1	1%	2	2%
Bike	0	0%	0	0%
Total	140	100%	138	100%

- 85% walk most days, including 45% every day
- Most children walk with at least one parent:  
**54% to** and **42% from** school

# 2. Acute Awareness

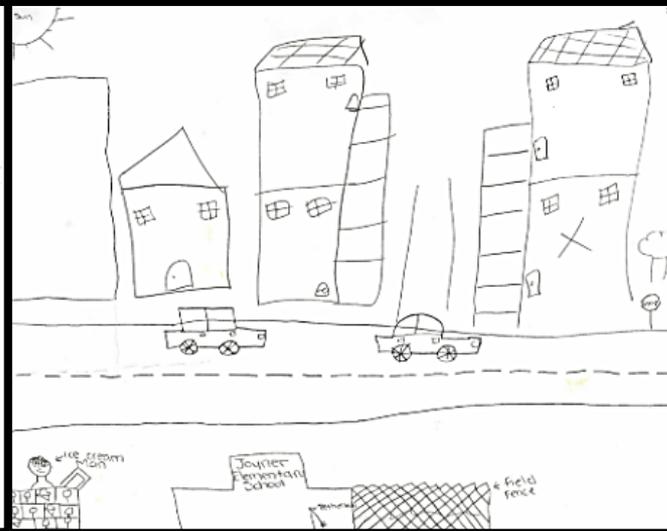
Total N = 122

Place



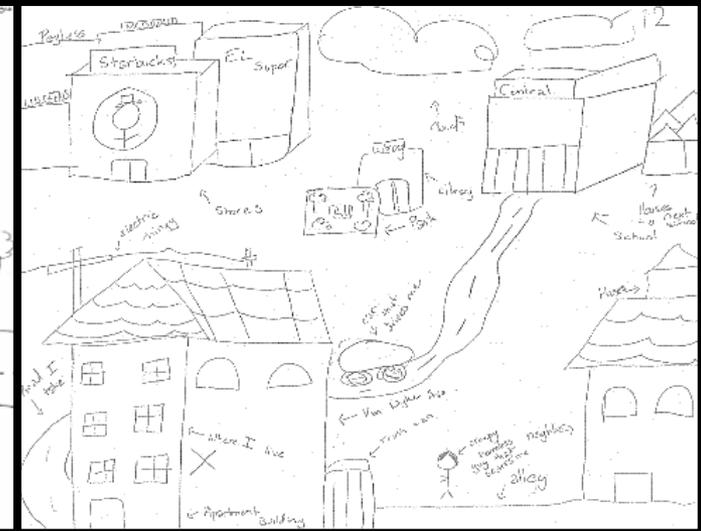
N = 7

Street



N = 60

Community



N = 55

- On average, children drew **23 “items”**

## 2. Acute Awareness

	Content Description	Content Prevalence (Number of Maps)	Frequency (%)
Urban context and form	Streets	116	95%
	Other houses/apts.	109	89%
Personal Cognitive Anchors	My home	93	76%
	School	90	74%
Streetscape/functional	Fence/gate	59	48%
	Retail stores	54	44%
	Cars	50	41%
Landscape/Appearance	Park/playground	44	36%
	Trees	43	35%
	Parking lot	42	34%
	Shrubbery	40	33%
	Signs	35	29%

A map of San Antonio, Texas, showing various neighborhoods and streets. Numerous colored dots (red, orange, yellow, green, blue) are scattered across the map, representing different locations. Some locations are marked with blue stars or icons, such as a KFC, a school, and a park. The map includes major roads like I-805 and I-15, and neighborhood names like Normal, Cabrillo Knoll, Teralton, City Heights, and Burlingame. Five callout boxes with colored borders (green, red, yellow) point to specific locations on the map, each containing a text description of a preference or dislike for that area.

“Starbucks because there  
coffee or hot chocolate  
and camel frappino”

“I don’t like Vandyke  
Avenue because there is a  
lot of gang members”

“I like that street because  
my fried lives there and it  
is a safe street”

“I don’t like the parking lot  
because you might get ran  
over”

“I don’t like because I see  
strangers hanging around  
there”

**271 places** were identified

- 67% liked (mostly commercial)
- 23% disliked
- 10% unsafe

## 2. Acute Awareness

### Examples of disliked places



“I don’t like because I see strangers hanging around there”



“I don’t like because when I’m crossing there there is a lot of cars passing”



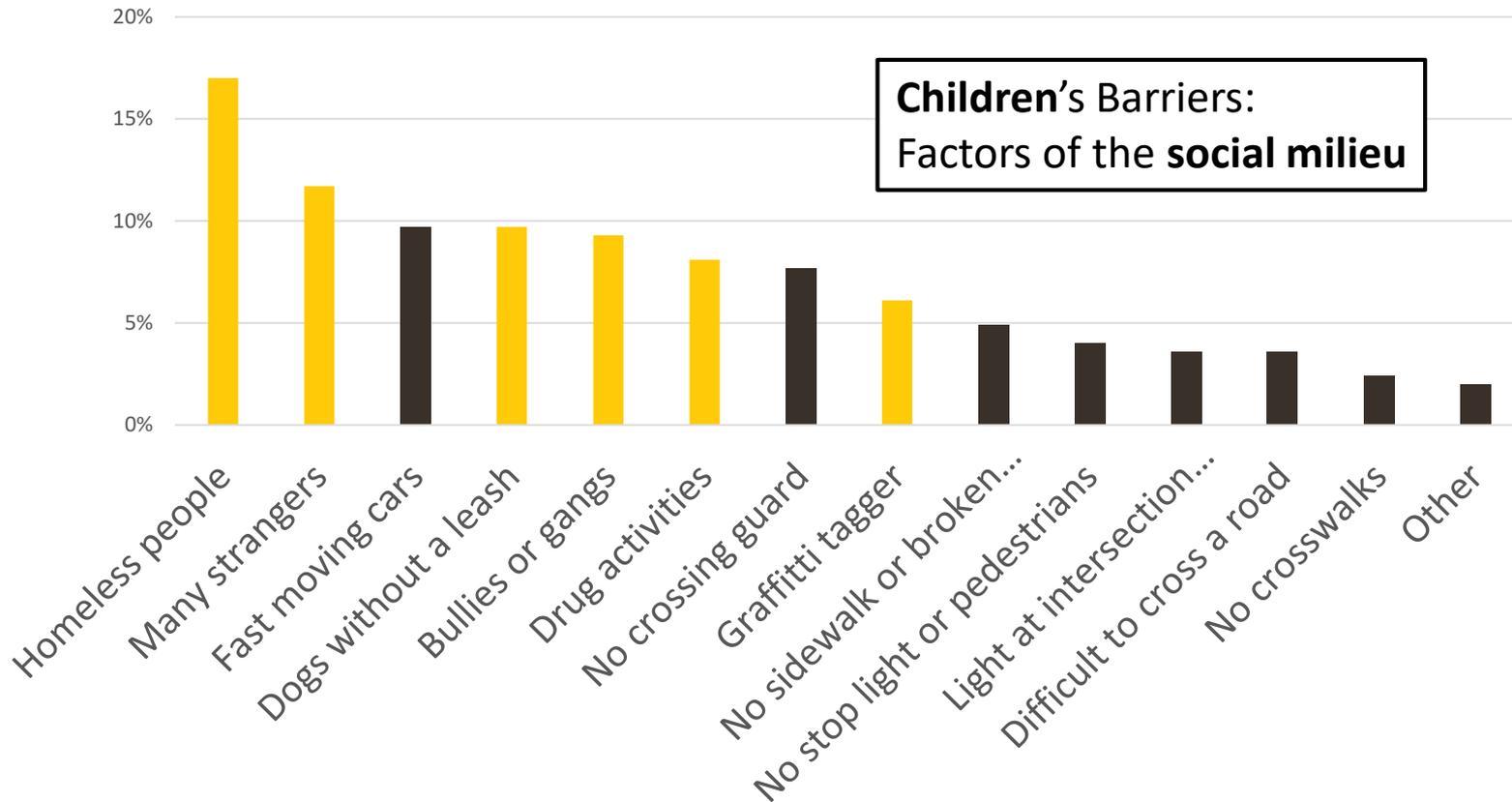
“I don’t like Van Dyke Ave because there are a lot of gang members”

69%

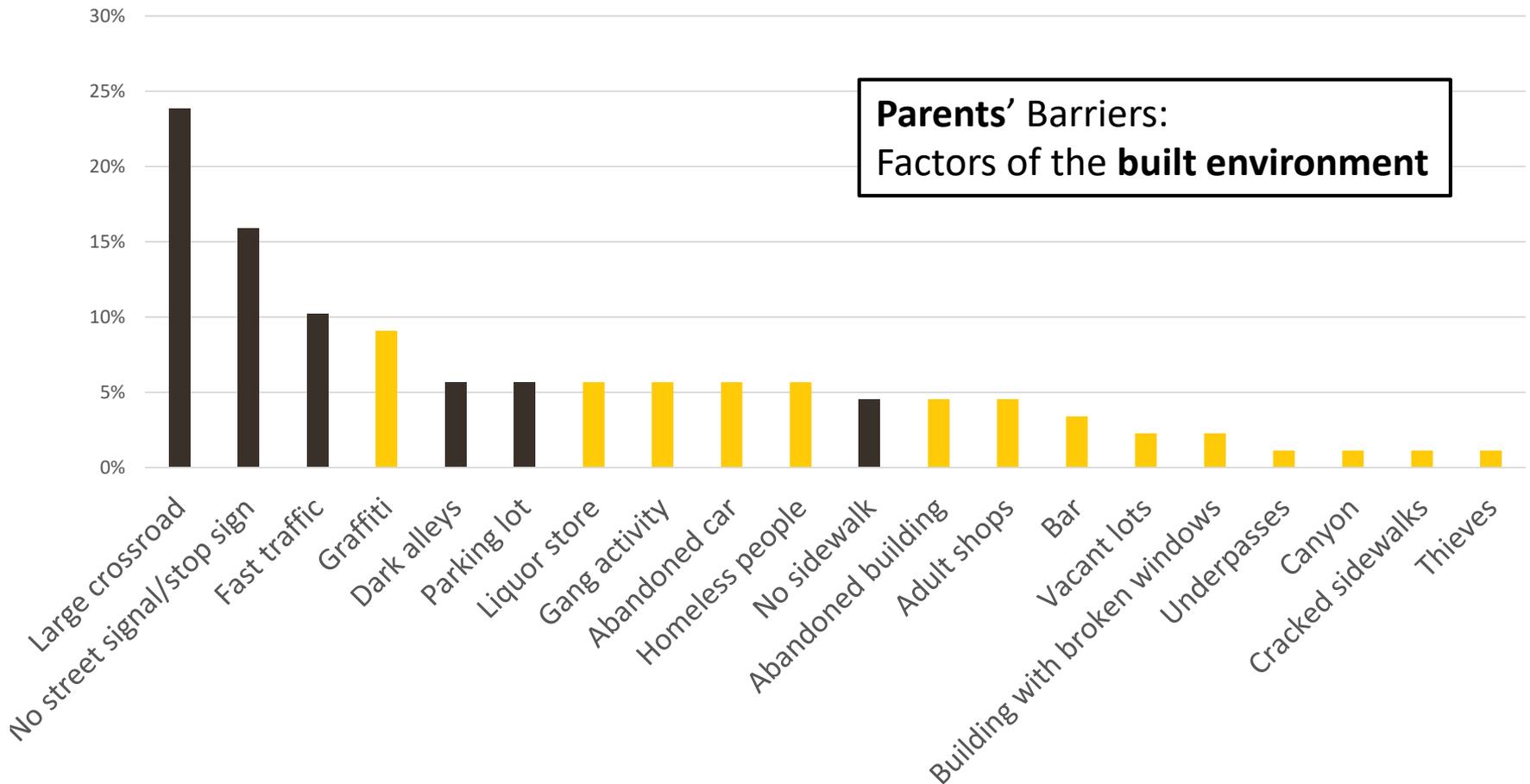
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Reported feeling **UNSAFE**  
when walking to school

# Different Perceptions



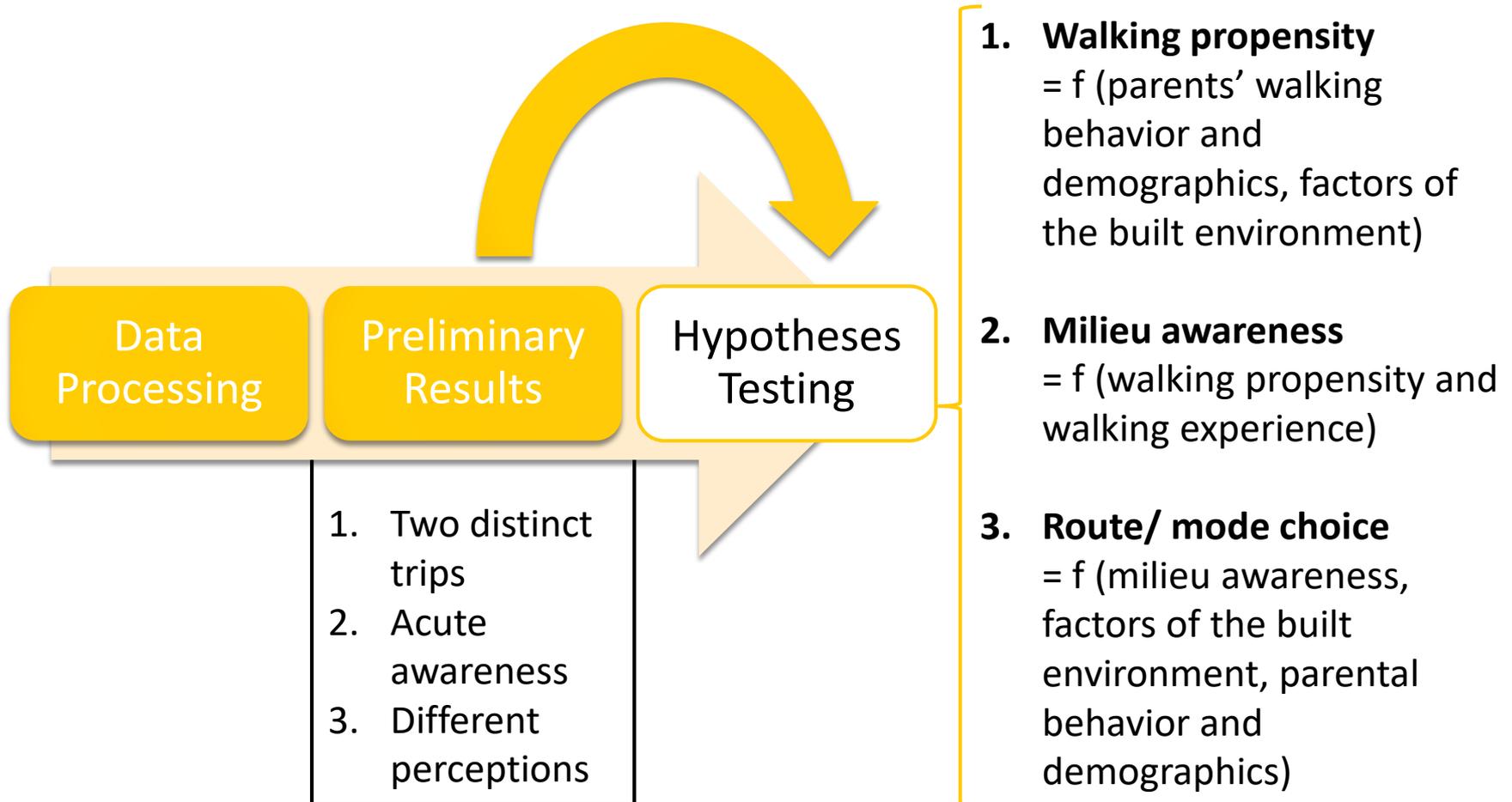
# Different Perceptions



# Policy Recommendations

1. Target trips to and from school differently
2. Address children's concerns about gangs, drugs and crime

# Progress and next Steps



# Thank you!

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