



## CORRELATES OF WALKING FOR TRANSPORTATION & PUBLIC TRANSPORTATION USE AMONG ST. LOUIS ADULTS

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Marissa Zwald, MPH

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# ACKNOWLEDGEMENTS

## CO-AUTHORS

AARON HIPPI + MARUI CORSEUIL + ELIZABETH DODSON

## PROJECT

ST. VINCENT GREENWAY EVALUATION

## SUPPORT

INTERNATIONAL CENTER FOR ADVANCED RENEWABLE ENERGY &  
SUSTAINABILITY AT WASHINGTON UNIVERSITY +  
JOHNS HOPKINS GLOBAL CENTER ON CHILDHOOD OBESITY

# OUTLINE

- BACKGROUND + STUDY AIMS
- METHODS
- WALKING FOR TRANSPORTATION RESULTS
- PUBLIC TRANSIT USE RESULTS
- CONCLUSIONS + POLICY IMPLICATIONS

# Walking for transportation + Public transportation use

Average time most Americans spend walking each day | **6 minutes**



Median time public transit users spend walking each day | **19 minutes**



Daily walking time recommended by CDC | **22 minutes**



# Perceptions of the built environment

- Perceptions of the built environment can influence walking for transportation.<sup>1-7</sup>
- More information is needed about how perceptions of the built environment influence public transportation use.



## Study aims

- Further assess the relationship between public transportation use and walking for transportation
- Examine the relationship between perceived environmental factors with public transportation use

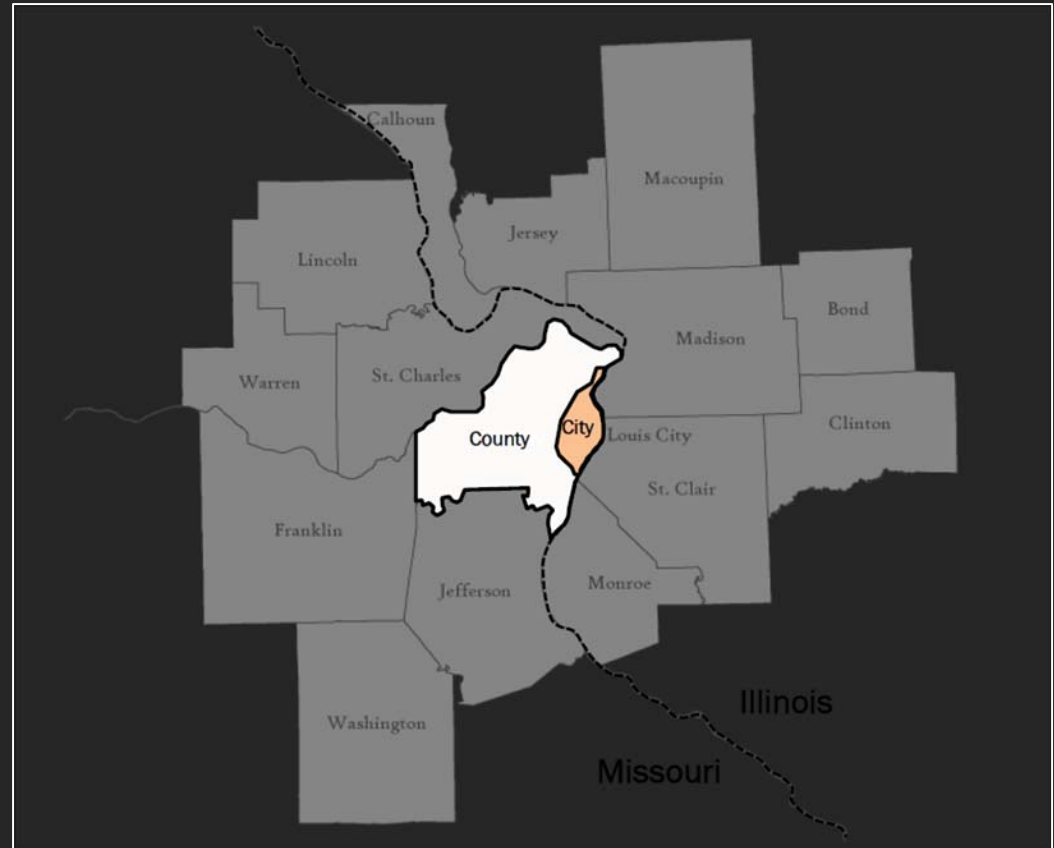


# Methods

- Data from St. Vincent Greenway Evaluation Study conducted in 2012
- Surveys mailed to random selection of households in 2 neighborhoods in St. Louis City, Missouri
- Eligibility criteria included being over 18 years old
- Total of 772 surveys were collected (response rate of 27%)

# Study setting | St. Louis City, 2012

- Population of 318,172
- 49% Black or African-American
- 27% Live below Federal poverty level
- Public transportation system operated by Metro St. Louis
  - Bus services
  - Call-a-ride shuttle services
  - Light rail transit system serving 37 stations in greater St. Louis





# Dependent Variables

- **Walking for transportation** | IPAQ  
minutes of walking for transport during the last 7 days  
(0 minutes | 1-149 minutes |  $\geq 150$  minutes)
- **Public transportation use**  
number of days traveled by bus or train during the last 7 days  
(0 days | 1-4 days |  $\geq 5$  days)

# Independent variables

## — Perceived built environment factors | NEWS

Volume of traffic

Speed of traffic

Presence of crosswalks and pedestrian signals

Visibility of pedestrians and bicyclists

Nearby crime

Safety from crime during day

Safety from crime at night

Accessibility to sidewalks

Number of destinations within a ten-minute walk

## — Multinomial logistic regression | STATA 12.0

# Characteristics of study population (N=772)



64% Female  
36% Male



27% <\$10,000  
24% \$10,000-\$29,999  
16% \$30,000-\$49,999  
12% \$50,000-\$69,999  
21% ≥\$70,000

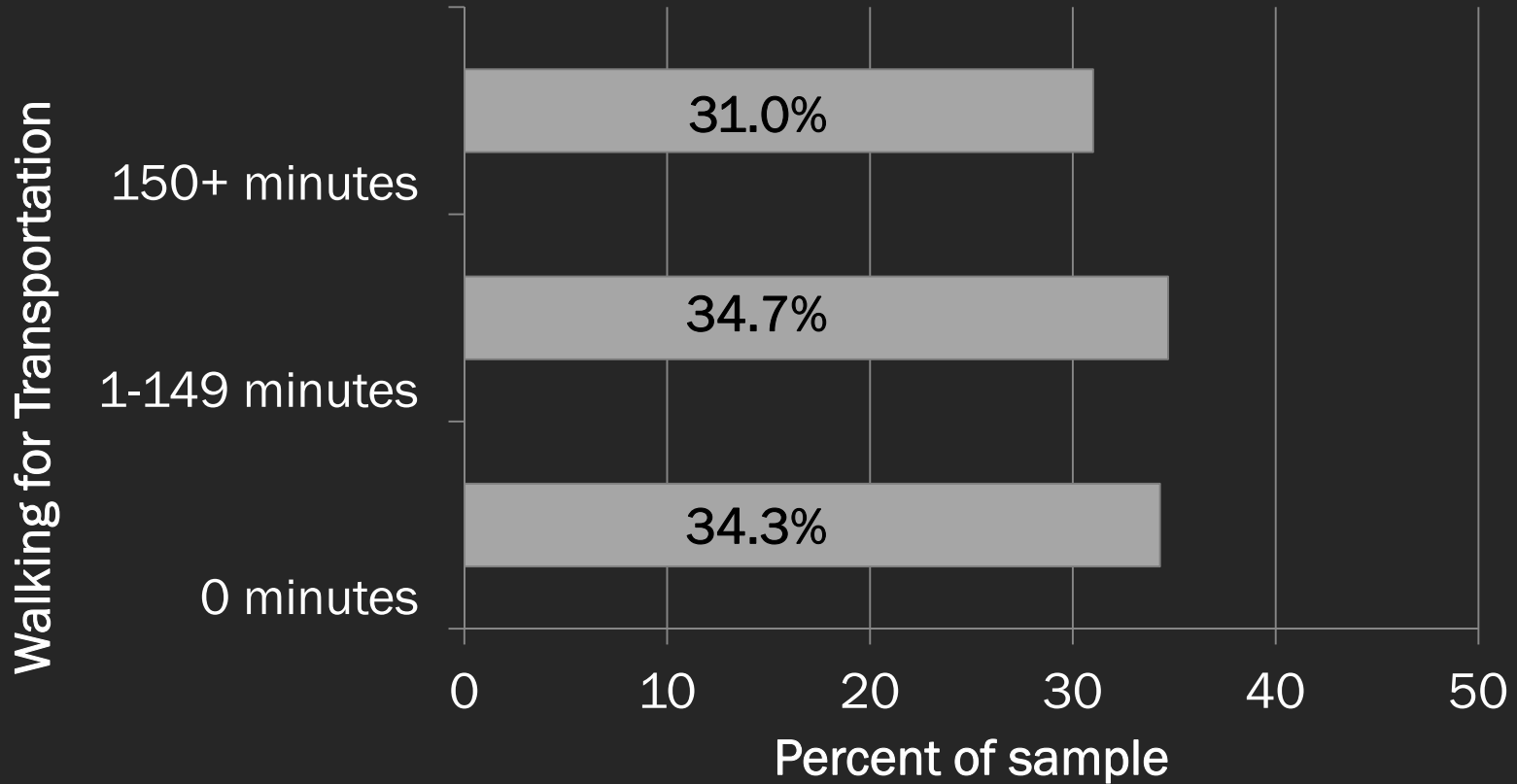


17% 18-29 years  
23% 30-39 years  
18% 40-49 years  
19% 50-59 years  
23% ≥60 years

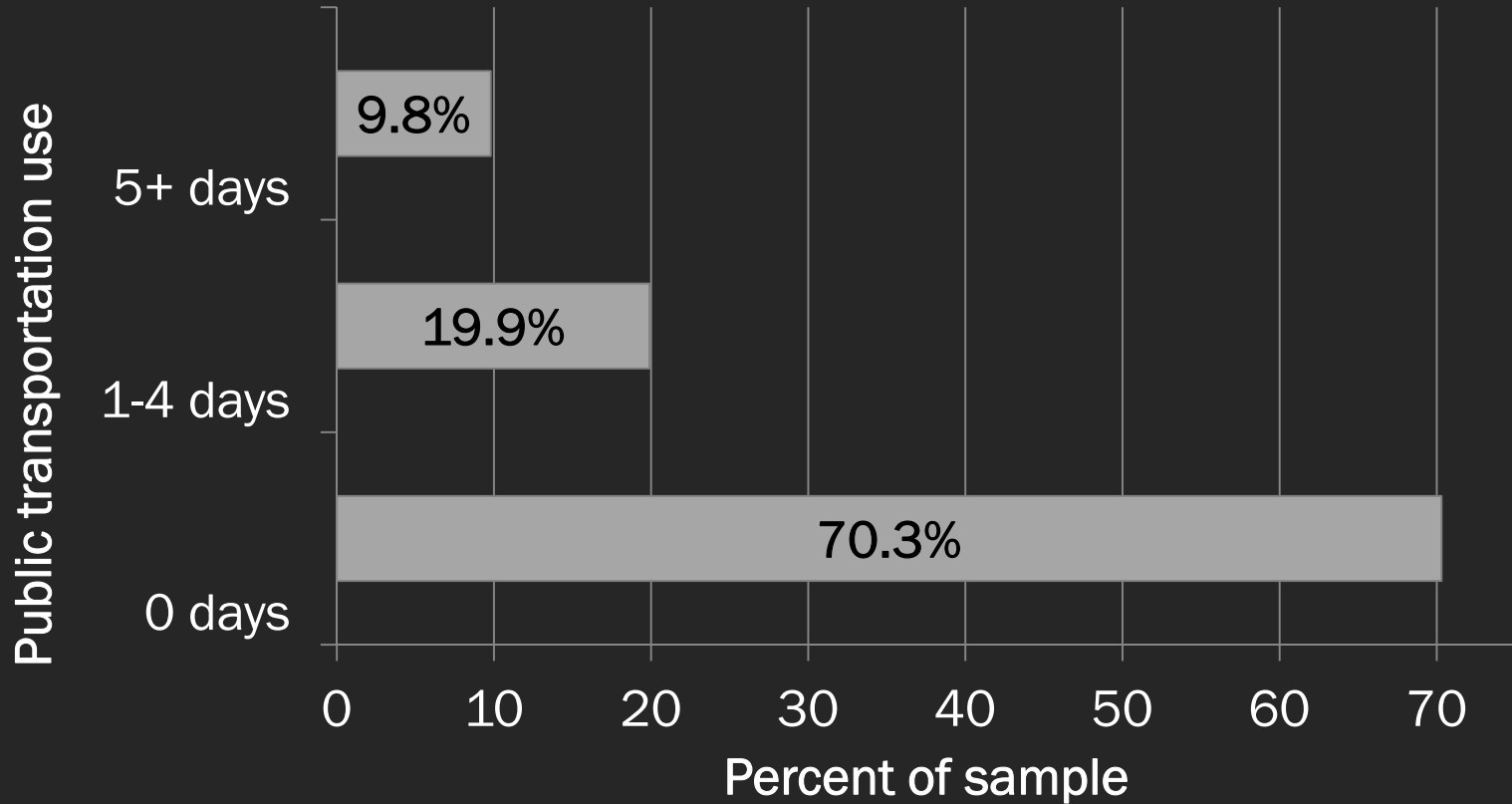


43% Unemployed  
57% Employed

# Results | Walking for transportation



# Results | Public transportation use



# Results

## Association between public transportation use + walking for transportation among St. Louis adults (N=772)

Public transportation use	Walking for transportation	
	1-149 minutes OR (95% CI)	≥ 150 minutes OR (95% CI)
0 days/past week	1.00	1.00
1-4 days/past week	2.11 (1.31-3.40)*	2.08 (1.27-3.42)*
5+days/past week	3.47 (1.47-8.19)*	8.61 (3.87-19.20)*

\*p<0.05

Odds ratios adjusted for gender, age, income, and employment status

# Results

Association between perceived built environment factors + public transportation use among St. Louis adults (N=772)

	Public transportation use	
	1-4 days OR (95% CI)	5+ days OR (95% CI)
<b>Speed of traffic</b>		
Disagree	1.00	1.00
Agree	0.54 (0.36-0.81)*	0.76 (0.44-1.32)
<b>Perceived nearby crime</b>		
Disagree	1.00	1.00
Agree	1.06 (0.67-1.69)	0.50 (0.28-0.87)*
<b>Safety from crime when walking during the day</b>		
Disagree	1.00	1.00
Agree	1.15 (0.73-1.82)	0.77 (0.41-1.43)
<b>Safety from crime when walking at night</b>		
Disagree	1.00	1.00
Agree	0.91 (0.53-1.58)	0.59 (0.29-1.18)
<b>Accessibility to sidewalks</b>		
Disagree	1.00	1.00
Agree	0.59 (0.30-1.16)	3.00 (0.69-13.12)
<b>Number of destinations within a ten-minute walk</b>		
0	1.00	1.00
1-5	1.52 (0.72-3.23)	2.86 (0.78-10.49)
6-10	1.37 (0.61-3.10)	2.22 (0.57-8.60)
11+	0.74 (0.30-1.81)	1.50 (0.36-6.30)

\*p<0.05  
Odds ratios adjusted for gender, age, income, and employment status

# Limitations

- Cross-sectional study design
- Low response rate
- Self-reported measures
- Relied on perceptions of built environment characteristics



# Conclusions

- Public transportation use can support individuals in meeting physical activity recommendations by walking for transportation
- Perceived environmental factors of **traffic speed and neighborhood crime** were negatively correlated with public transportation use in St. Louis City

# Policy + Practice Implications

## AMERICANS RIDING PUBLIC TRANSIT IN RECORD NUMBERS

By JUSTIN PRITCHARD — Mar. 9, 2014 11:37 PM EDT

Home » General news » Americans riding public transit in record numbers

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*Pedestrians board a train at Union Station Friday March 7, 2014 in Los Angeles. Americans are boarding public buses, trains and subways in greater numbers than any time since the suburbs began to boom. Nearly 10.7 billion trips in 2013, to be precise, the highest number since 1956. (AP Photo/Nick Ut)*

# Policy + Practice Implications

- Implement strategies to **decrease traffic speed on roadways**
- Explore opportunities to **enhance personal safety features** on buses and trains and near transit stops
- Collaborate with law enforcement officials to **increase police presence** near bus and train stops



THANK YOU!

MARISSA ZWALD  
MZWALD@WUSTL.EDU



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