1 Unversity Direct Grant, Co-I, 2012-2014

A natural experimental study on interventions of “3-4-3” to “3-3-4” in HK’s university eduction

Pre/post changes in CUHK campus built environment

Pre/post changes in walking and bus use behaviours on campus

Subjects: youths (university students)

Sun et al. International Journal of Health Geographics 2014, 13:28
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How do changes to the built environment influence walking behaviors? a longitudinal study within a university campus in Hong Kong

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Abstract

Background: Previous studies testing the association between the built environment and walking behavior have been largely cross-sectional and have yielded mixed results. This study reports on a natural experiment in which changes to the built environment were implemented at a university campus in Hong Kong. Longitudinal data on walking behaviors were collected using surveys, one before and one after changes to the built environment, to test the influence of changes to the built environment on walking behavior.

Methods: Built environment data are from a university campus in Hong Kong, and include land use, campus bus services, pedestrian network, and population density data collected from campus maps, the university developmental office, and field surveys. Walking behavior data were collected at baseline in March 2012 (n = 198) and after changes to the built environment from the same cohort of subjects in December 2012 (n = 169) using a walking diary. Geographic information systems (GIS) was used to map walking routes and built environment variables, and compare each subject’s walking behaviors and built environment exposure before and after the changes to the built environment. Walking behavior outcomes were changes in: i) walking distance, ii) destination-oriented walking, and iii) walked altitude range. Multivariable linear regression models were used to test for associations between changes to the built environment and changes in walking behaviors.

Results: Greater pedestrian network connectivity predicted longer walking distances and an increased likelihood of walking as a means of transportation. The increased use of recreational (vs. work) buildings, largely located at mid-range altitudes, as well as increased population density predicted greater walking distances.Having more bus services and a greater population density encouraged people to increase their walked altitude range.

Conclusions: In this longitudinal study, changes to the built environment were associated with changes in walking behaviors. Use of GIS combined with walking diaries presents a practical method for mapping and measuring changes in the built environment and walking behaviors, respectively. Additional longitudinal studies can help clarify the relationships between the built environment and walking behaviors identified in this natural experiment.

Keywords: Longitudinal study, Built environment, Walking diary, Geographic information system

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2. NSFC project, PI, 2015-2019

A natural experimental study or Nanchang's metro line 1

Active travel, mode shift, and wellbeing

3. GRF Project, PI, 2018-2021

A natural experiment study of metro line in HK

Public transport use and health impacts on the elderly: A natural experiment in the high density built environment of Hong Kong

The funding committee commented that "This project is highly relevant not only for understanding and better-serving the transport needs of elders in Hong Kong, but also for translating the methodology to other high-density cities undergoing changes in their mass transit systems."

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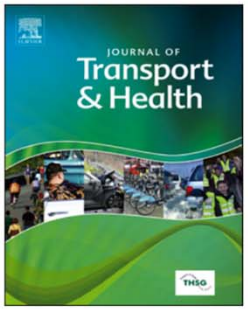
Journal of Transport & Health 4 (2017) 191–207

Contents lists available at ScienceDirect

Journal of Transport & Health

journal homepage: www.elsevier.com/locate/jth



Objective assessment of station approach routes: Development and reliability of an audit for walking environments around metro stations in China

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Transport and Health Publications (2)

Journal of Transport & Health 8 (2018) 251–261

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Journal of Transport & Health

journal homepage: www.elsevier.com/locate/jth

Living in school catchment neighborhoods: Perceived built environments and active commuting behaviors of children in China

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Transport and Health Publications (3)

Sustainable Cities and Society 35 (2017) 323–330

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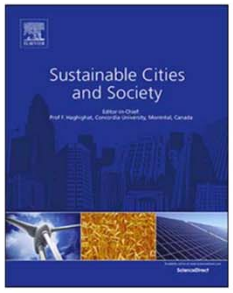

Can bicycle relieve overcrowded metro? Managing short-distance travel in Beijing

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