

Annotated Bibliography: Active Transportation

Research Question: How does the built environment support or constrain healthy transportation options?

Berrigan, D., Pickle, L., & Dill, J. (2010). Associations between street connectivity and active transportation. *International Journal of Health Geographics, 9*(1), 20. doi: 10.1186/1476-072x-9-20

This study explored the association between street connectivity and the prevalence of active transportation in Los Angeles and Sand Diego. The study found small but significant associations between the presence of short blocks and a grid structure with active transportation.

Jensen, W., Stump, T., Brown, B., Werner, C., & Smith, K. (2017). Walkability, complete streets, and gender: Who benefits most?. *Health & Place, 48*, 80-89. doi: 10.1016/j.healthplace.2017.09.007

This study audited two complete streets before and after their renovation into a complete street. The authors found that complete street users increased in both cases. They also found that there were less females on the street and that street improvements should focus on social equity.

Koohsari, M., Sugiyama, T., Shibata, A., Ishii, K., Liao, Y., & Hanibuchi, T. et al. (2017). Associations of street layout with walking and sedentary behaviors in an urban and a rural area of Japan. *Health & Place, 45*, 64-69. doi: 10.1016/j.healthplace.2017.03.003

- This study examined whether the street layout was associated with walking and sedentary behaviors, and whether or not those behaviors differ in the urban and rural settings. The study found that participants which were exposed to connected street layouts were more likely to engage in walking.

Macmillan, A., Mackie, H., Hosking, J., Witten, K., Smith, M., & Field, A. et al. (2018). Controlled before-after intervention study of suburb-wide street changes to increase walking and cycling: Te Ara Mua-Future Streets study design. *BMC Public Health, 18*(1). doi: 10.1186/s12889-018-5758-1

- This paper describes a mixed-methods, controlled before and after intervention study which assessed the effect of street changes in a suburb on health, social and environmental outcomes. This paper is a study protocol and so does not have the results of the study yet. However, the study has the potential to add knowledge to the evidence base of reshaping cities for health.

Mitra, R., Papaioannou, E., & Habib, K. (2015). Past and Present of Active School Transportation: An Exploration of the Built Environment Effects in Toronto, Canada from 1986 to 2006. *Journal Of Transport And Land Use*. doi: 10.5198/jtlu.2015.537

- This paper discusses the role of travel distance to school and automobile ownership on a child's travel choice. High car ownership was negatively associated with active school transportation.

Peacock-McLaughlin, C., Largo-Wight, E., Wlyudka, P., Johnson, T., & Merten, J. (2017). The built environment, transportation policy, and population health: a comparison of two cities. *Urban Research & Practice*, 11(3), 193-199. doi: 10.1080/17535069.2017.1322134

- This study compared active transportation policy and the built environment of two southern US cities. The authors found the city with more supportive urban and transportation policies aimed at facilitating healthy behaviors was indeed the healthier city.

Rivet, Douglas M. (2016). Examining the Active Transportation - Built Environment Relationship in London, Ontario. Electronic Thesis and Dissertation Repository. 4261. <https://ir.lib.uwo.ca/etd/4261>

- This thesis examined the environmental determinants of active transportation in working adults and elementary school children. The author found that distance between the origin and destination was the most important factor in active travel, along with socioeconomic status.

Sadik-Khan, J., & Solomonow, S. (2017). Improving Public Health by Making Cities Friendly to Walking and Biking. *JAMA Internal Medicine*, 177(5), 613. doi: 10.1001/jamainternmed.2017.0343

This article discusses the imperative to design cities for health. The author compares a street that is designed for vehicles and a street that is designed for safe walking and biking. The conclusion is that cities need to make investments in healthy city planning and design.

Sallis, J., Spoon, C., Cavill, N., Engelberg, J., Gebel, K., & Parker, M. et al. (2015). Co-benefits of designing communities for active living: an exploration of literature. *International Journal Of Behavioral Nutrition And Physical Activity*, 12(1). doi: 10.1186/s12966-015-0188-2

- This paper recognizes the importance of creating communities which foster active transportation and found substantial evidence that designing community environments that make physical activity attractive and convenient, also produces additional benefits such as social benefits, environmental sustainability, safety and economic benefits.

Smith, M., Hosking, J., Woodward, A., Witten, K., MacMillan, A., & Field, A. et al. (2017). Systematic literature review of built environment effects on physical activity and active transport – an update and new findings on health equity. *International Journal Of Behavioral Nutrition And Physical Activity*, 14(1). doi: 10.1186/s12966-017-0613-9

This systematic literature review found a positive effect of walkability components, provision of quality parks, and improvements in active transport infrastructure on physical activity and the use of those settings. The review also found that the infrastructure improvements and benefits may be inequitable distributed towards higher socio-economic levels.

Toronto Public Health. (2014). Healthy Streets: Evidence Review. City of Toronto.

This report assessed the published evidence on the relationship between specific street design choices with health outcomes. The report summarizes how street design elements can promote walking, biking and better health.

Wang, L., Wen, C. (2017). The Relationship between the Neighborhood Built Environment and Active Transportation among Adults: A Systematic Literature Review. *Urban Science*, 1(3), 29. doi: 10.3390/urbansci1030029

- This literature review summarized findings between the built environment and active transportation in adults. The study found that higher density, land use mix, street connectivity, sidewalks, and access to destinations all were associated with higher levels of active transportation.