

The Social and Cultural Gap: The Active Transportation Bridge

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Active Transportation and Bridging Communities

Shifting Neighbourhoods and Communities

The Nature of Equity

Federal-level Perspective

- Active transportation included in the federal transportation planning process over the past 40 years
- Succession of transportation bill funding levels and changes in policy actors
- Structural changes providing dedicated funding and expanded public participation fostered the burgeoning active transportation coalition
- Increasing active transportation usage rates

Fields & Cradock (2014) Public Works Management & Policy



State-level Perspectives

- Urbanized states more likely to have complete streets policies
- Diffusion of the policy appears weakly associated with adjacency of adopting states
- Policy related to the comprehensiveness of early complete streets policies, differences diminish as policies gained traction
- State-level complete streets policies have become more comprehensive in content

Yusuf et. al. (2016) *Public Works Management & Policy*

The Challenge

- We need a comprehensive understanding of the multiple benefits of alternative transport with policy making in the areas of transport, health, and environment.
- There is no straightforward method which could estimate co-benefits effect at one time
- We need the links between vehicle emissions, air quality, health, and economic benefits
- Methodological issues relating to the modelling

Xia et al (2013) Journal of Environmental and Public Health

Benefits & Costs

- Public transport, ridesharing, cycling and walking have various benefits and costs which are overlooked or undervalued transportation economic evaluation
- Evaluation practices originally developed to assess roadway improvements: vehicle travel speeds and operating cost
- Do not quantify or monetize the benefits of basic mobility benefits, vehicle ownership and parking cost savings, or efficient land development benefits

Litman (2017) Victoria Transport Policy Institute

Transit Part of the Conversation

- Living within a half-mile of a transit station associated with an increase in walking and physical activity for participants who previously had low walking and physical activity levels
- Results opposite for participants with previously high walking and physical activity levels

Hong et. al.(2016) Transportation Research Part A

The Role of Bikesharing

- Bikesharing enhances public transportation and improved transit connectivity.
- Three of the four largest cities in the study exhibited declines in bus and rail as a result of bikesharing.
- 50% in Montreal reported reducing rail use, similar shifts in Toronto and Washington D.C.
- Using public transit in conjunction with bikesharing to make trips previously completed by automobile.
- Twin Cities 15% of respondents reported increasing rail usage versus only 3% decrease in rail use.

For the Kids...

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- Since 1969, the proportion of elementary/middle school students walking or biking to school fell 35 percentage points, from 47.7% to 12.7%
- School-aged children and youth who travel to school by active means accumulate more physical activity and have better cardio, respiratory, morphological, metabolic, and muscular fitness profiles than those who travel by passive means

Dentr et. al. (2014) Journal of Physical Activity and Health

Active Commuting

- The social ecological (individual, interpersonal, community, and environmental variables) provides a framework for understanding a range of influences on AC and should inform strategies to improve AC behavior (N=1,234)
- Results: Significant relationships were found between AC and individual, interpersonal, institutional, community, and environmental influences; 70% of the variance in AC was explained with the full model

Bopp et al (2013) American Journal of Health Behavior

Report Card

Active Transportation: F

- 12.7% of school aged children and youth in the U.S. traveled to school by active means such as walking or biking.
- 84.7% of U.S. school-aged children traveled to school by passive means, either personal vehicle (45.3%) or school bus (39.4%)
- The grade of F reflects the very low overall prevalence of active transportation among children and youth.

Dentr et. al. (2014) Journal of Physical Activity and Health

AT Should be Equity, not Equality

- Equity is the fairness with which impacts (benefits and costs) are distributed.
- Transportation planning decisions often have significant equity impacts
- Transport equity analysis can be difficult because there are several types of equity, many potential impacts to consider, various ways to measure impacts, and many possible ways to categorize people

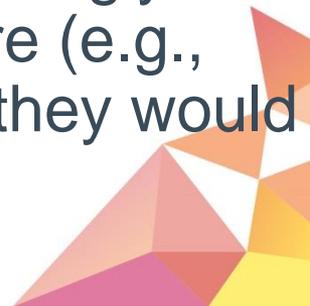
The Deck...

- Twenty four percent of Americans living in poverty do not own a vehicle
- Traditionally underserved populations suffer from problems associated with inactivity, many of which could be addressed through proved access to safe walking and wheeling facilities
- Low-income, minority, or immigrant individuals are more likely to have jobs that cause them to commute outside of traditional '9 to 5' hours, often in the dark and when public transit services are not operating



The Deck...

- Immigrants and individuals with language barriers travel more frequently by walking or wheeling than non-immigrants and native English but without accessible pedestrian and bicycle facilities
- According Pedaling Toward Equity, women and minorities feel significantly less safe traveling by bicycle than non-minority males in the U.S.
- A majority of women and minorities agreed or strongly agreed that, given more supportive infrastructure (e.g., sidewalks, bike lanes, and separated facilities), they would be much more likely to try using a bicycle for transportation

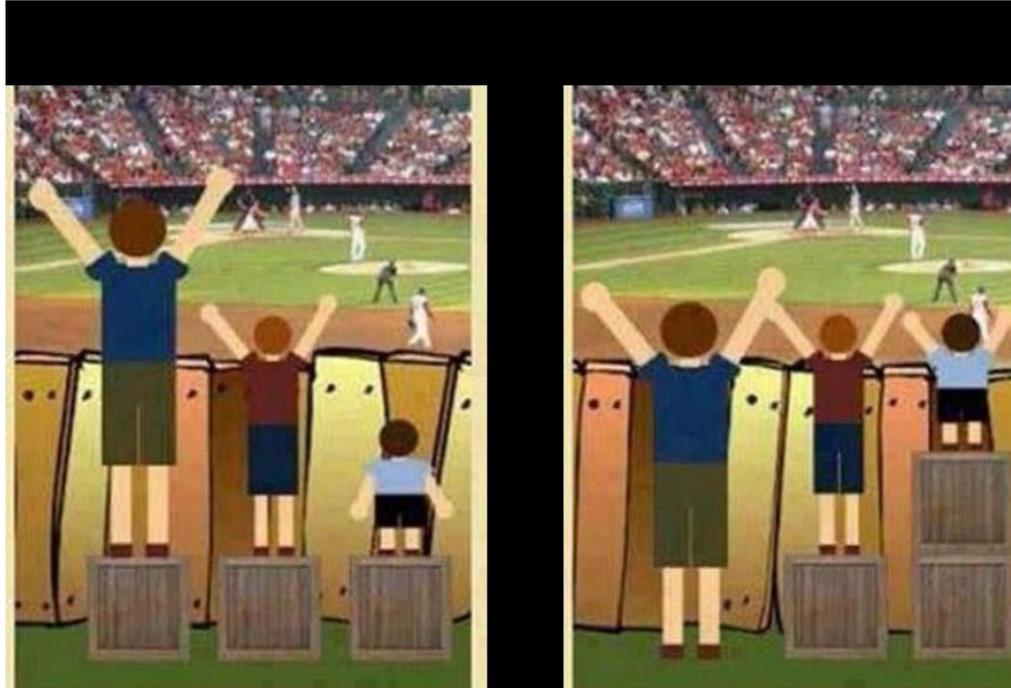


The Deck...

- Individuals with limited travel options (including limited access to nonmotorized travel modes) travel less overall, make fewer trips for shopping and socializing; have a harder time applying for and accepting employment; are less likely to access healthy foods, health care, and educational resources; and are more likely to experience social isolation



Equality vs Equity



More Diversity

- Public transit users have higher levels of walking and bicycling because they walk to and from transit.
- Surveys in Baltimore and Seattle (n = 1,622) revealed that transit users performed more Active Transportation than nonusers, especially when dependent on transit.

Lachapelle et al (2016) Journal of Planning Education and Research

Making the Case

- For transit agencies, this health-based social marketing could support increases in ridership.
- Consider health issues in public transit planning
- Consider physical activity benefits as individual and social **externalities** of public transit service investments
- Cost-benefit analysis of future transit projects could include the health benefits of a physically active lifestyle and other health and ecological costs currently unaccounted for

Parking is a Player...

- **Free car parking** at work is related to more driving.
- Commuters offered either public transportation benefits, (showers/lockers, or bike parking) but **NO free car parking** lead to riding public transportation, walking/cycling to work.
- Providing for public transportation, walking, and cycling leads to commute by all three of these modes and a decreased likelihood of driving.
- **Free car parking** in benefit packages alongside benefits for public transportation, walking, and cycling, seems to offset the effect of these incentives.

Hamre & Buehler *Journal of Public Transportation* (2014)

Scale Matters

- 73 public elementary schools in Austin TX.
- GIS measured the neighborhood-level walkability and safety. Field audits assessed the street-level walkability
- Economic and ethnic disparities exist in the environmental support for walking,
- Need for tailored interventions in promoting active living
- Low-income, Hispanic children likely live in unsafe areas with poor street environments but with some favorable neighborhood-level conditions

Zhu et al (2014) American Journal of Preventative Medicine

Transportation Equity?

- Transportation equity is to facilitate social and economic opportunities through equitable levels of access to affordable and reliable transportation options based on the needs of the populations being served, particularly populations that are traditionally underserved: Low Income, Minority, Elderly, Limited English Proficiency, or Persons with Disabilities.
- Note that transportation equity does not mean allocating transportation resources in equal amounts to all people



Safe Routes to School...

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- There is potential for school districts and families to reduce transport expenditures through public sector investments in walking and biking infrastructure near schools.
- Land use context matters and the most cost-effective investments would benefit schools where large numbers of children live within walking distance

McDonald et al (2014) Transportation

Definitive Proof...

- Effects of increased Physical Activity contributed the most to estimated health benefits, which strongly outweighed detrimental effects of traffic incidents and air pollution exposure on health
- Despite different methodologies being applied with distinctive assumptions on key parameters, Active Transportation can provide substantial net health benefits, irrespective of geographical context

Mueller (2015) Preventative Medicine