

**STANLEY LASH
AWARD**

2010 Recipient

Ashley North

FREAK OR CHIC? EXAMINING THE BARRIERS TO CYCLING AND CYCLE CHIC

Introduction

As a child, learning to ride a bike is a rite of passage, creating greater mobility and providing more independence. When you grow older, people may look at you funny – or with respect and admiration – if you happen to ride your bike to work. What people may not realize is that statistically it is even more unique if you ride to work and you are female. This paper will first describe bicycle use by gender. Second, it will focus on general barriers to cycling. Third, it will examine the barriers especially applicable to women. Fourth, the case study of *Cycle Chic* will be critically examined based on the understanding of key barriers provided from the literature.

Bicycle Use

There are many well-documented benefits of cycling related to personal health, cost-effectiveness, efficiency, and the environmental impacts (Frank & Engelke, 2001; Pucher & Dijkstra, 2003; Frank, Sallis, Conway, Chapman, & Bachman, 2006). However, in many developed countries, the bicycle is not a very popular mode of transportation. It accounts for a fraction of total trips in countries like the United States (0.4%), Canada (1.2%), and the United Kingdom (1%), for example (Pucher & Buehler, 2008). Some countries have successfully developed a cycling culture resulting in modal splits as high as 27% in the Netherlands, and 18% in Denmark (Pucher & Buehler, 2008).

The differences in cycling between these countries are even more striking if the gender of the traveler is considered. Very few women bicycle in countries where it is not a very popular modal choice. In Canada, women account for only 30% of all bike trips. The story is similar in the United Kingdom (28% of all trips are by women) and in the United States (25% of all trips are by women) (Pucher & Buehler, 2008). In countries where cycling is a part of the nation's culture, the modal split is more-or-less gender neutral, such as in Denmark where women account for 45% of all bike trips or in the Netherlands where it's 55% (Pucher & Buehler, 2008). As a result, female bike ridership is an indicator of a good cycling environment. So what are some of the basic barriers to people cycling in countries like Canada? Secondly, why are there so few women cycling in these car-dominated countries?

Why Aren't More People Bicycling?

The difficulty with travel behaviour, and therefore understanding cycling behaviour, is that it is affected by a myriad of factors (Krizek, Johnson, & Tilahun, 2005). It is these myriad of factors that discourage people from cycling. Some of the major barriers are: distance, weather, and perception and attitudes.¹ Even though cycling is efficient, it does require an output of energy from individuals. (Hence its health benefits.) It is also a much slower mode of travel relative to vehicles. This makes it an unappealing mode when journeys to work are made across a long distance. Studies have found distance to be the barrier most cited by respondents (Dickinson, Kingham, Copsey, & Hougie, 2003; Gatersleben & Appleton, 2007). However, in the USA and UK, only 2% of all short trips are taken by bicycle (Pucher & Buehler, 2008).

Weather and climate are also cited as reasons for not cycling. It is a barrier that is difficult to control, and it is frequently cited as a significant barrier (Oja, Vuori, & Paronen, 1998; Dill & Voros, 2006). A study on the impact of post-secondary student commuter cycling in Melbourne, Australia found that student mode choices were impacted by daily weather changes. However, it is noted that the correlation was not as strong as one would anticipate (Nankervis, 1999).

Perception of bicycle commuting is arguably a psychological and social phenomenon that is embodied in many ways. The vehicle is viewed as an item that denotes social status; thus, cycling may be looked down upon. Many people, women especially, consider cycling to be an activity that other people do (Gatersleben & Appleton, 2007). Attitudes related to how one views cycling also impact cycling behaviour (Dickinson, Kingham, Copsey, & Hougie, 2003). In some neighbourhoods, maintaining environmental integrity is a priority and so cycling is viewed as very positive (Dill & Voros, 2006). Further, personal psychosocial factors including beliefs related to physical activity and self-efficacy influence the decision to bike (Dill & Voros, 2006). The other difficulty of perception is that it makes the other barriers including distance and weather subjective, because people decide personally whether it is feasible to bike (Nankervis, 1999; Dill & Voros, 2006).

¹ Other major barriers not discussed in detail in this section include: topography, infrastructure, land use (related to distance), policy, and history.

These factors manifest themselves differently for individuals, and it is well known that the barriers present themselves differently based on gender. Pucher and Buehler (2008) attest that policy can be used to address these barriers. However, they do not note how the policy implications for women may need to be targeted.

Why Are Even Fewer Females Bicycling?

Men and women are both subjected to the barriers described above, and undoubtedly, males are not immune to the two key barriers that women face. Nonetheless, it is well documented that concern for safety and gender-related travel behaviour are key barriers to women cycling.

Concern for Safety

Studies have shown that concern over safety is a major barrier to cycling for women (Emond, Tang, & Handy, 2009). Safety while cycling is both a perceived and real issue. In an accident involving a bicycle and a motor vehicle, especially at vehicle speeds above 48 km/h, the odds are not in favour of the cyclist (Emond, Tang, & Handy, 2009). This real threat influences the perception and concern for safety that women have, which is related to risk aversion and infrastructure.

Whether it is due to nature or nurture, women are more risk averse than men (Krizek, Johnson, & Tilahun, 2005 ;Emond, Tang, & Handy, 2009). This means that women perceive safety differently than men. Risk aversion may apply to different aspects of life, but when it comes to travel, cycling is seen as a riskier mode (Krizek, Johnson, & Tilahun, 2005). Women are more likely than men to perceive their environment as unsafe due to vehicle traffic and driver behaviour (Emond, Tang, & Handy, 2009). As Edmond, Tang, and Handy (2009) state, concern over safety is an individual perception but the social and physical environments influence it. In a study of women and men aged 40 and over, 13% of women versus 3% of men cited unsafe road conditions impinging on their safety (Krizek, Johnson, & Tilahun, 2005). Thus, risk aversion has special implications for planners due to its relationship with cycling infrastructure.

Networks for cycling can include shared roads, bicycle lanes, physically separated bike paths, off-road facilities, or cycle tracks. Related to their concern over safety, women prefer

infrastructure that is specific to cycling by means of off-road facilities separated from traffic (Krizek, Johnson, & Tilahun, 2005) (Emond, Tang, & Handy, 2009). Krizek et al (2005), who studied age groups over 40, found that more women than men considered cycling unsafe (77% versus 70%), and cited that bike paths were the most important for ensuring their comfort while cycling. It was also found that women would intentionally choose routes that had a cycle path, while men would choose the fastest routes. Even “experienced” female cyclists have concern for safety, which has implications for organizations such as the United States Federal Highway Administration, which plans off-road cycling paths primarily for recreational use, not utilitarian purposes. If these paths are not connected to services, they may not be maximizing use (Emond, Tang, & Handy, 2009). This is especially applicable in connection with the second major barrier, gender-related travel behaviour.

Gender-Related Travel Behaviour

The past few decades has seen a lot of changes in terms of gender roles and household structures. Gender is an important indicator of travel patterns. Women who work experience commutes that are much shorter than those of men (Dickinson, Kingham, Copsey, & Hougie, 2003). This makes women ideal candidates for commuting by bicycle, yet they seem to be more resistant to cycling (Gatersleben & Appleton, 2007). The reason is settled behind why their commutes are shorter in the first place.

Despite increasing gender equalities, the travel patterns of men are more stable compared to those of women, which fluctuate based on household structure (Nobis & Lenz, 2005). Women carry out more of the duties related to children and household needs. Thus, the shorter commutes are borne out of the necessity of time (Dickinson, Kingham, Copsey, & Hougie, 2003). Women make twice as many trips during the weekdays in order to pickup or drop-off children (McGuckin & Nakamoto, 2005). Women also carry out a lot of trip chaining and purchasing of goods (Krizek, Johnson, & Tilahun, 2005). This drives the preference for the personal automobile, despite short commutes. Since gender roles are a social construct, it may be difficult to manage this barrier through policy.

The *Cycle Chic* Movement

Cycle Chic is one of the few known efforts to make cycling appeal to women (and men). *Cycle Chic* is a photoblog that typically depicts residents of Copenhagen cycling around their city or provides anecdotal information on what it means to be a cyclist. The site adamantly counters the perception that cycling is for males who wear spandex and use ultra-light road bikes. Its manifest attests to “always choose style over speed”, and the author deplores the idea of cycle wear, whether it is spandex or the newly marketed “urban cycling wear” (Cycle Chic, 2009). *Cycle Chic* affirms that biking is simple, for regular people, and can be done in regular clothes with proper bicycle accessories. The power of the Internet has turned the *Cycle Chic* blog into an online movement that represents chic cyclists from cities across the globe, including Toronto and Montreal.

Cycle Chic runs the risk of over-glamourizing biking, and superficially valuing fashion. However, that is not all *Cycle Chic* stands for. In naming the top 5 *Cycle Chic* cities, two anecdotal criteria were applied. The first is that fashionable attire is present on bicycles. The second was that a cycling culture must exist within the city. Cycling must not be a part of a sub-culture, but a mainstream activity. In applying this criterion, the cities’ bicycling culture was evaluated based on the presence of infrastructure, such as separated bike lanes and bicycle parking. Thus, although it is sub-textual, *Cycle Chic* does value infrastructure.

The *Cycle Chic* movement has three main implications when it comes to encouraging cycling for women. For one, perception is a major barrier to cycling for both men and women. Making cycling fashionable and relatable to “ordinary” people is a positive step for creating a cycling culture. Secondly, because it is based online, the movement appeals to a younger generation and makes it readily accessible to a large number of people. If cycling becomes a fashionable, convenient habit in young adulthood, it may be something that is more likely to carry over to later life stages. Thirdly, Pucher and Buehler (2008), as stated earlier in the paper, maintain that cycling barriers can be overcome with policy. What *Cycle Chic* represents is a grassroots, global movement that may represent a bottom-up growth of cycling popularity and, as a result, garner a desire for infrastructure.

Overall, *Cycle Chic* could be classified as innovative. It is admirable in terms of its vision of cycling in addressing the barrier of perception. The two major barriers to women cycling, safety and travel behaviour, are not explicitly addressed. However, the movement could result in a round-a-bout way of encouraging cycling infrastructure, which is something that is very important in addressing the concern for safety that women have.

Conclusion

Though the benefits to cycling are well established, there are major deficiencies in the amount of bicycle trips taken in countries like the United States and Canada. There are substantial reasons for this as travel behaviour is complex and the barriers that men and women face are numerous. They include distance, weather, and perception. However, considering that within the countries with low cycling rates, women are making a very small portion of those trips, it is clear that there are barriers especially pertinent to women. These barriers include concern for safety and travel behaviour related to gender. *Cycle Chic* is an online movement that seeks to make cycling appealing to women (and men, to some degree). Although *Cycle Chic* does not explicitly address the barriers that are particular to women, it does provide underlying support to cycling cultures and the infrastructure that supports those cultures. Infrastructure is very important in addressing women's concern for safety. The question remains whether technology could be used to address barriers related to gender-specific travel behaviour.

Works Cited

-
- Bernhoft, M. I., & Carstensen, G. (2008). Preferences and behaviour of pedestrians and cyclists by age and gender. *Transportation Research Part F* (11), 83-95.
- Cycle Chic. (2009, June 5). *The Good News and the Bad News About the Cycle Chic Movement*. Retrieved December 8, 2010, from Copenhagen Cycle Chic:
<http://www.copenhagencyclechic.com/2009/06/good-news-and-bad-news-about-cycle-chic.html>
- Dickinson, J. E., Kingham, S., Copsey, S., & Hougie, D. J. (2003). Employer travel plans, cycling and gender: will travel plan measures improve the outlook for cycling to work in the UK? *Transportation Research D* (8), 53-67.

- Dill, J., & Voros, K. (2006). *Factors affecting bicycling demand: Initial survey finding from the Portland region*. Portland State University, Portland.
- Emond, C. R., Tang, W., & Handy, S. L. (2009). Explaining Gender Difference in Bicycling Behavior. *Journal of the Transportation Research Board* , 16-25.
- Frank, L. D., & Engelke, P. O. (2001). The Built Environment and Human Activity Patterns: Exploring the Impacts of Urban Form on Public Health. *Journal of Planning Literature* , 16 (2), 202-218.
- Frank, L. D., Sallis, J. F., Conway, T. L., Chapman, J. E., & Bachman, B. (2006). Many Pathways from Land Use to Health: Associations between Neighborhood Walkability and Active Transportation, Body Mass Index, and Air Quality. *Journal of the American Planning Association* , 72 (1), 76-87.
- Gatersleben, B., & Appleton, K. M. (2007). Contemplating cycling to work: Attitudes and perceptions in different stages of change. *Transportation Research Part A* , 41, 302-312.
- Krizek, J. K., Johnson, P. J., & Tilahun, N. (2005). Gender Differences in Bicycling Behaviour and Facility Preferences. *Research on Women's Issues in Transportation* (pp. 31-40). Washington: Transportation Research Board.
- McGuckin, N., & Nakamoto, Y. (2005). Differences in Trip Chaining by Men and Women. *Research on Women's Issues in Transportation* (pp. 49-56). Washington: Transportation Research Board.
- Nankervis, M. (1999). The effect of weather and climate on bicycle commuting. *Transportation Research A* (33), 417-431.
- Nobis, C., & Lenz, B. (2005). Gender Differences in Travel Patterns: Role of Employment Status and Household Structure. *Research on Issues in Women's Transportation* (pp. 114-123). Washington: Transportation Research Board.
- Oja, P., Vuori, I., & Paronen, O. (1998). Daily walking and cycling to work: their utility as health enhancing physical activity. *Patient Education and Counseling* (33), S87-S94.
- Pucher, J., & Buehler, R. (2008). Making Cycling Irresistible: Lessons from The Netherlands, Denmark and Germany. *Transport Reviews* , 28 (4), 495-528.
- Pucher, J., & Dijkstra, L. (2003). Promoting safe walking and cycling to improve public health: lessons from The Netherlands and Germany. *American Journal of Public Health* , 93 (9), 1509-16.