Bike Culture in America and Europe: Revolutionizing American Infrastructure and Culture for a Cleaner Future

Growing up in Colorado, I developed a love for man-powered expeditions, valuing the intimacy they offered over conventional travel. My recent solo cycling trip from Zurich to Zermatt in the Swiss Alps not only reinforced my connection to man-powered expeditions but also opened my eyes to the efficiency of sustainable travel in Europe. Europe has far better cycling infrastructure, an aspect American cities could benefit from. Climate scientists often point to cycling as an ideal mode of transportation due to its near-zero impact on the environment and noise pollution (Pucher and Dijkstra, 3). While cycling is an efficient mode of transportation, many experts point to poor cycling infrastructure in the US as the primary reason cycling isn't more widely accepted in American transportation (Hull and O'Holleran, 3). Based on my experience, by integrating more effective biking infrastructure into American cities, more people will be willing and able to commute using bikes which will improve cities across the country economically, in regards to health, and relieve rising traffic congestion. However, for this to become a reality, a cultural shift recognizing cycling as a viable mode of transportation - not just exercise - is essential.

Comparing non-motorized commuting rates in the US and Europe reveals just how many more Europeans commute by bike than Americans. In the US, less than 7% of commuters use non-motorized methods of transportation, and 2% use bike travel while in Europe, the average non-motorized commute makes up 30% of commuter travel (Pucher and Dijkstra, 5). Let's look at two extreme examples from a 2013 study, the Dallas-Fort Worth (DFW) area and the City of Copenhagen. In the DFW area, more than 78% of all trips were solo drives and less than 0.3% were by bike whereas 40% of Copenhagen commuters drove alone and 33% opted to commute via cycling (Mavs Open Press). That's 110 times more bicycle commuters in Copenhagen than of that in the DFW area. One of the key drivers behind this large disparity is the obvious difference

in urban sprawl and density between the two cities. The DFW metropolitan area is about 20,429 square kilometers while Copenhagen's metro area is only 2,864 square kilometers (Ingels). This is a massive difference in terms of each city's metro size, so it's easy to imagine why cycling in Copenhagen is easier and more accepted than in the DFW metroplex. Additionally, The average American city has about 1,700 people per square kilometer, whereas the average European metropolitan area has about 4,000 people per square kilometer (OCED). This lack of density will naturally deter Americans from commuting by bike due to the longer distances. However, 63% of all local, non-interstate, trips by the average American are less than five miles (Bike League). A five-mile trip for the average American on a bike would only take a little longer than 20 minutes (Minarik). The typical American spends forty-five minutes in a car per round trip (Gross). This distance and time are manageable on any bike and in some cases, cycling may even save time, so the lack of bicycle commuters in the US cannot be solely attributed to greater distances.

One of the largest, and most prevalent, reasons there is a lack of bicycle commuters in the US is the high or perceived risk of cycling in the US. In the US, there are about 110 bicyclist fatalities per billion kilometers traveled (Pucher and Dijkstra, 13). In Germany, that number is only twenty-five, and seventeen in the Netherlands (Pucher and Dijkstra, 13). That is a shocking number and certainly plays a role in American's psyches and their willingness to commute on their bikes. These numbers can be mostly attributed to poor infrastructure for cyclists in the US. However, I believe there is an underlying social aspect to these fatalities. My hypothesis for this high cyclist mortality rate in the US relates to how frequently Americans ride their bikes. The rate at which Americans ride their bikes is considerably less than that of Europeans and are

therefore less experienced and educated. This makes it far more likely for a cycling accident to occur in the US. Which again leads back to poor infrastructure and its ease of use.

The simple fact is that cities in Europe are far more willing to invest in cycling infrastructure than their American counterparts. From 2012 to 2022, Copenhagen invested more than $200 million in cycling-related infrastructure making it the most bike-friendly country in the world (Visit Denmark). In May 2023, France announced it would spend $2 billion over the next four years to improve its cycling infrastructure and get commuters to ditch their cars (O'Brien). Conversely, Boston has only spent about $30 million over that same period even though public officials claim and agree that there is a transportation issue (Boston Cyclists Union). The City of Boston even went as far as saying that cycling is a viable option to alleviate the issue (Boston Cyclists Union).

Why is there such a large difference between what European nations are willing to spend to improve cycling infrastructure and that of US cities? The glaring fact is that US cities are designed for cars and have become reliant on the existing infrastructure and associated economic benefits. At the turn of the 20th century, streets in American cities were crawling with pedestrians, trams, and cyclists (Mattioli, 6). However, as cars became a more popular method of travel and auto manufacturers' influence expanded, other modes of transportation were phased out for ‘more modernity’ by policies and carefully defined restrictions (Mattioli, 6). On top of this, the auto industry is closely linked to the oil and gas industry, which enables it to play a major role in US policymaking. In other words, without one, the other fails. The US economy is reliant on oil and gas, which is estimated to be worth about $2.31 trillion and generates 10.3 million jobs in the US alone. Any alternative transportation that could negatively impact the auto industry, and therefore oil and gas, will be avoided until the alternative option has comparable

economic benefits (Mattioli, 6). This creates a barrier to constructing new cycling infrastructure. Especially for city organizations that require US government approval, it's unlikely that new infrastructure projects detrimental to the oil, gas, and automotive industries will receive clearance. As a result, without new infrastructure, Americans are less likely to commute by cycling because of the associated risks which can be attributed to the existing poor infrastructure.

If Americans embraced bike culture and dramatically increased demand, new infrastructure would be implemented. The European perspective is that biking is primarily a mode of transportation and exercise is a healthy byproduct (Reliance Foundry). This makes it more palatable for European cities to invest in cycling infrastructure because there is already demand and acceptance. In contrast, Americans primarily see cycling as a form of exercise that grants cycling some esteem in the exercise community but primarily builds a social barrier so new individuals are less inclined to join (Reliance Foundry). Potential New American cyclists view cycling solely as physical exercise. This lack of cultural acceptance of biking as a mode of transportation makes it less likely for US city planners and policymakers to see the need for cycling infrastructure.

Fortunately, bike culture is on the rise and can be seen in many forms, yet cities often react too late. Fewer young people are driving in comparison to previous years. A study by the University of Michigan found that 87% of 19-year-olds in 1987 had their driver's license when compared to just 63% in 2008 (Reliance Foundry). In 2022 the US imported 19.24 million bikes from abroad, more than 5.5 million more than in 2019 (Frothingham). Cambridge, MA, whose residents are mostly between the active ages of 15 and 35 (Infoplease), has found itself in a struggle between business owners and members of the cycling community (Thompson). After new bike lanes were introduced, business owners complained that storefront parking was now

impossible and therefore hindered their revenues (Thompson). Prior to the implementation of the bike lanes in 2022, Massachusetts Avenue would average 12 bicycle-related injuries or deaths per year (Thompson). If Boston city planners had anticipated the increase in demand for cycling sooner additional cycling infrastructure would not have had a detrimental effect on local businesses. Nonetheless, Boston developed an additional 25 miles of bike paths within the city to account for the rising demand of cyclists in 2022. This additional infrastructure demonstrates that demand for cycling infrastructure is on the rise yet it is still evident that there is resistance to additional infrastructure based on Boston's slow reaction. Increased demand and acceptance of bike culture can force more cycling infrastructure to be implemented as proven in this case by Boston. Demand for cycling infrastructure is the key driver behind infrastructure developments in the US which is why a cultural change is necessary to improve cycling infrastructure in the US. As a whole, the US may not be ready for the integration of cycling infrastructure but some prove it's easier than it might seem.

Portland can serve as an example of effectively integrating cycling into its infrastructure and culture. Residents in Portland have increased the need for cycling infrastructure dramatically over the past decade (Reliance Foundry). In addition to the demand, Portland also recognizes cycling as a primary mode of transportation and has many benefits such as relieving traffic congestion, improving public health, and aiding the state in meeting its goals of cutting carbon emissions (Reliance Foundry). Portland has also made rental bike companies more readily available. In 2016, the BIKETOWN program was launched which logged over 600,000 miles in its first year and 156,000 of those miles would have been done in a car which would have resulted in about 65,000 kilograms of carbon emissions (Reliance Foundry). Portland has also experienced an economic boost from cycling. In 2014, Portland tourists spent $12.4 million on

cycling-related activities in 2014 (Reliance Foundry). Portland has developed a positive biking community that benefits both residents and the local economy. Many US cities, and society in the US, fail to view cycling as anything other than a form of exercise, whereas Portland provides a case that shows cycling can be a positive component of any community.

Based on my personal experience and empirical evidence, it's clear that improving cycling infrastructure in U.S. cities would have many benefits which include bolstering local economies, improving public health, and reducing traffic congestion. However, these improvements demand a societal shift. Cycling must be recognized not just as a form of exercise, but as a viable means of transportation in the US. The US has been slow to react due to cultural attitudes and economic structures. American society is deeply tied to automobile usage, and shifting away from it threatens various industries. However, this barrier is not impenetrable. Implementing solutions such as bike rental systems can generate significant revenue, demonstrating the economic viability of cycling infrastructure. If we don't act now, we miss an opportunity for a meaningful improvement in urban living.

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