

The Struggle to Promote  
Walking and Cycling in American Cities

An STS Research Paper  
presented to the faculty of the  
School of Engineering and Applied Science  
University of Virginia

by

Eduardo Corro

May 16,2023

On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments.

*Eduardo Corro*

STS Advisor: Peter Norton

## **The Struggle to Promote Walking and Cycling in American Cities**

Urban design techniques can be used to affect human decision-making, for example to promote some modes of mobility over others. Urban design techniques can promote behaviors, such as modes of travel, that serve community goals. Most U.S. cities prioritize driving at the expense of walking and cycling. Yet New York, Los Angeles, Washington D.C., and other U.S. cities have adopted policies to encourage walking and cycling to reduce emissions, relieve traffic congestion, and promote active and inclusive mobility. Yet as these policies have spread, deaths among pedestrians and cyclists have risen. From 2017 to 2018, such fatalities in Washington, D.C., increased 20 percent (Lazo, 2019). Experts and advocates disagree about the causes of this trend. To some, it is evidence that efforts to promote walking and cycling make traffic more dangerous. Others, however, contend that the best way to make walking and cycling safe is to better accommodate it, even at the expense of drivers. To reduce car dependency, policymakers and urban planners have improved walkability and public transportation. Traffic calming techniques, such as speed bumps and smaller turning radii at intersections, can reduce vehicular speeds, thereby improving pedestrians' and cyclists' safety. Other techniques can change awareness and promote more inclusive values. For example, in Mexico City, a pedestrian advocate called Peatónito wears a luchador mask to intervene on pedestrians' behalf, winning favor for his efforts in part because of the high esteem in which lucha libre is held. Yet no U.S. city can compare with international examples such as Amsterdam, where 75 percent of residents walk and cycle as their main mode of transport, and where only 43 pedestrians died in 2021 (Statista, 2022). Amsterdam has adapted to prioritize cycling above motorized vehicles, the most

common speed limit is 30 km/h, the city moves at bicycle velocity. Rising fatalities among pedestrians and cyclists in U.S. cities are leading some groups to question efforts to promote walking and cycling. Others, however, say that the rising death rates demonstrate that more efforts to protect pedestrians and cyclists are needed, and that fast driving must be curtailed wherever people walk and ride bikes. While many countries have seen a decrease in pedestrian fatalities in their transition to become more walkable, the United States remained at 17 percent pedestrian death rate since 1975 (IIHS HLDI, 2022). Advocacy groups all around the United States are trying every day to make the country less dependent on motorized vehicles. The most common way is to popularize recreational physical activity by promoting bicycling and transportation efficiency. The rural and suburban areas are not reaping the benefits of biking policies provided by advocacy groups. On the other hand, the big cities, have been experiencing an exponential growth in commuters who drive a bicycle to work in a daily basis. On the 2000s policies to protect biking infrastructure were instated in Washington D.C. Since then, the percent of bicycle riders went from one to five percent. This number is expected to increase to twenty percent in the next decade (Strauss, 2021). Yet, as walking and cycling have risen, so have deaths among pedestrians and cyclists. Efforts to improve walkability and cycling have also exposed pedestrians and cyclists to fast motor vehicles, hazards can rise. Ever since the automobile became part of the American streets and lifestyle, it has been established that they had the right of way. The automobile industry popularized the concept of “jaywalking”. Ever since the popularization of that concept, the pedestrians were the ones technically invading the streets. For the pedestrians and cyclists to interact safely on the road again, motorized vehicle streets and infrastructure must also transition and make space for walkable city measures.

## Review of Research

Jeff Speck is an American city planner who has given multiple TED talks and books about urban planning. His book, *Walkable City: How Downtown saves America* is his most influential piece of work on making American cities more walkable (Speck, 2012). The book talks about how walkability is crucial for improving American life quality and to encourage additional benefits such as less traffic, less air pollution, increase in general health and boost in local economy. Speck also aims to popularize the vision of a walkable city by providing insights and recommendations to urban planners in America. Speck indicates that the commuter needs these things to take the ideal walk: a good reason to do it, the walk needs to be safe, comfortable, as well as interesting. Some of his innovations to accomplish these 5 goals include: strategically more compact towns – which will allow the resident to walk wherever he needs to. Another method used to increase safety is reducing the width of oversized streets to enlarge the sidewalks. This open up space to include features that may be attractive to the pedestrian or the simple bystander. Additionally, it can increase safety, which is of utmost importance to anyone who walks to get by on a regular basis. He states that “cars are the prosthetic of transportation”, which means that you should only use cars if you have something missing (Engineer.com, 2017).

Speck suggests that the active dependence on motorized vehicles by Americans implies that something is missing. This gives rise to another question: What is the United States missing in order to become a successful walkable country? The best way to solve this question is to compare America’s transportation infrastructure with other countries that have successfully made the transition to walkable cities. There are many different criteria to determine what makes a city walkable. Walkability depends on safety, accessibility to public transportation and centered shopping districts.

Multiple important articles with different rankings for the top walkable cities in the world exist. After comparing several articles from multiple newspapers and websites, the cities that were always considered the most walkable were Amsterdam, Florence, and Paris. The methods of transportation between these cities have nothing in common. The most common way to commute to work in Amsterdam is cycling; any type of public transportation in Paris, and walking in Florence (Armstrong, 2022). These cities have a similar design in the sense that motorized vehicles, at some points, are inefficient. Convenience stores and commonly-attended places – such as schools or hospitals – are often at a walkable distance or close to public transportation stops. Another important factor is the economic one. Parking spots are relatively expensive as well as the private methods of transportation. Further, to consider the safety factor, the streets’ geometry and narrowness which forces the motorized vehicles to cruise at a lower speed hence, ensuring the safety of the pedestrian commuter or innocent bystander. Cities in America which are having a tough transition from motorized to walkable structures, have some of these characteristics in common. These include centered convenience stores and expensive private methods of transportation. This implies that Speck was not completely right about America’s transportation infrastructure, the system is not missing something. The correct question is not “What do the transportation system is lacking?”, but “What does the transportation system have too much of?”. In Amsterdam, only one in four people own a car. In Paris, only three out of ten people do, and in Florence, one out of three (Yeung, 2022) people own a motor vehicle. On the other hand, 92 percent of the United States population owned a car according to the 2023 census. The transportation system in America is designed for motorized vehicles, which increases the demand for cars. Since its popularization, the average number of vehicles per family in America has increased consistently through the years. The growing supply

of vehicles has created an equal demand for miles of road construction. In 2020 the amount of money spent on road construction was 1.15 billion dollars and the year after that, the number grew to 1.5 billion dollars (Statista, 2022). The demand for vehicles and the demand for highways are linked in an unbreakable cycle. Leaving behind motorized vehicles will be a very drastic change for the United States with all the 20<sup>th</sup> century urban planning designs tailored towards motorized vehicles. The law firm *Rosenberg, Minc, Falkoff & Wolff LLP* published an article on how walkable cities can negatively affect pedestrians' safety. This law firm focuses on defending pedestrians in New York City involved in car accidents. They explained the reason behind the increment in accidents in the last decade. New York is a city with an extraordinary amount of daily traffic, which makes one of the best ways of transportation walking. The problem is that the contrast between walking and motorized traffic is too high, the only possible outcome with this quantity of traffic and pedestrians are many street accidents (Rosenberg, Minc, Falkoff & Wolff LLP, 2016). After conducting a survey in New York, the law firm concluded that the major cause of these accidents was distracted pedestrians. People feel that they are safe in a walking environment when they are still in a city where cars are the dominant force. These statistics create some disagreements with Speck's ideals, he suggests that cities should have designated zones only for pedestrians such as parks and plazas, but this could increase the already alarming contrast between motorized vehicles and pedestrians.

The stakeholders in charge of the progress that walkable cities have made over the last couple of years are the urban planners. They design and materialize the country's future vision. Since the pandemic, walking and cycling have become more popular. Urban planners tailored the major cities' walkability measures to facilitate community interaction and business among communities. According to a Wall Street Journal article, only 25 percent of teens in America

obtained their driver's license at 16 in 2021. The number in the 1980's was around 75 percent (Roberts 2021). As evidenced, not many people felt the need to get their license after the pandemic due to the shift in walkability measures major cities adopted.

The top five rated walkable communities in America were San Francisco, New York, Boston, Chicago, and Washington DC. They each received a score of 89, 88, 83.77, and 77 respectively. Prior to the pandemic, their scores were slightly lower: 86, 89, 80, 75, and 75. One would assume that higher walkability scores implied lower 'transit friendly' scores. However, this is not the case for these major cities. Their 'transit friendly' scores match, and in the case of New York, even surpass that of their walkability scores (Walk Score, 2021). Walkability is increasing without the average transit decreasing fast enough.

Advocacy groups around the country contribute a lot to the popularization of walking and cycling America. Many cycling advocacy groups create movements to increase the cycling infrastructure and promote safety and convenience for riders. The League of American Bicyclists – which has the improvement of the US cycling system at the top of its agenda – focuses on local funds and passing cyclist protection laws to build a bicycle-friendly America for everyone (Bikeleague, 2006). Some government agencies are also participants of the transition to a walkable America. The government agency that oversees the progress of the community's civil development throughout America is the Department of Housing and Urban Development. The HUD has a goal to help low-income families in America by making affordable and efficient neighborhoods. The department focuses on small to medium-sized communities by making sure important locations in the community have walkable access and the land use for the street designs and public transportation systems are used properly.

The negative aspect of walkability increasing at this rate in the country is that there is no proper balance between the pedestrians and transit. Besides, the urban sprawl cities of the country are not adapting properly to the transition. The cities with worst walkability in the United States – due to their greater block density – are Orlando, Atlanta, Indianapolis, and San Antonio. The communities with low walkability have shown fewer positive outcomes related health benefits, stronger local businesses, and traffic (Hubbard, 2020). Cities with greater block density suffer the opposite than those with higher population in smaller areas, the pedestrian deaths are higher since the walkability is inefficient. Atlanta reported 29 pedestrian deaths in 2021, almost twice as the previous year (Wheatley, 2022). This proves that as walkability rates increase, traffic density should decline to make walkable cities efficient.

### **Where is the Line Between Ethical and Unethical Choice Architecture?**

*The ratio of walkability and motorized vehicles a city should have*

The vision of a walkable city has increased in popularity in the United States, especially in highly block dense cities. Among the top ranked walkable cities in the country were San Francisco, New York, Chicago, Philadelphia, and Boston (Walk Score, 2021). All those cities were also ranked with the higher population densities in the country, the compactness of the cities make it more feasible to be walkable. The problem lies on the number of motorized vehicles that circulate daily with all the pedestrians and cyclists as well. From 2010 to 2020, pedestrian fatalities have increased 54 percent in the United States. In 2022 San Francisco, New York and Chicago broke the record of pedestrian and cyclists' deaths combined (Gunderson, 2022). Walkability has also increased since the fatalities in these cities, so there is a correlation between walkability and rising pedestrian deaths.



New York is the number 2 ranked walkable city in America, but it is also the one with most cars per capita. For the city to succeed as “walkable”, motorized-vehicle structures must make room for walkable measure implementation. More walkable measures are not to be adopted if no motor-vehicle structures are compromised. If more walkable structures were included in NYC, motor vehicle arrangements should be reduced. The entire geometry of the community needs to change. This can be achieved by applying basic changes like narrowing the streets, reducing parking spots, and decreasing the average speed limit. According to Jeff Speck, a vital step to obtain a relatively successful walkable city “cars must be put in their place”. Reducing car traffic is necessary for this transition. In contrast to the dense block cities, urban sprawl cities have been not designed to be walkable, which makes them more likely to have pedestrian fatalities due to the lack of pedestrian and cycling infrastructure. San Antonio is considered one of the least walkable cities in America, with a very low score of 37, and a population of 225, 221 (Lewis, 2017). The number of people killed while crossing the streets has increased for 4 consecutive years, signaling that the lack of behavioral design which influences people to walk is provoking serious consequences in the Sun Belt cities (Jimenez, 2022). Therefore, the dense block cities with more walkable behavioral designs should focus more on reducing the motorized vehicles circulating the streets, while the urban sprawl cities should invest more in improving the pedestrian and cycling infrastructure of the local communities.

#### *Ethical Choice Architecture used to increase walkability*

The type of behavioral design that is applied in the United States to promote the transition from motorized to walkable cities can be both ethical and unethical. Cities that do not have motorized vehicles as their main method of transportation have seen many long-term

benefits like increased social interaction, reduction in crime, and improvement in physical and mental health. This has led to multiple advocacies wanting to promote walkability despite the consequences the drastic transition can cause. For example, the DC-League of American Bicyclists focuses on creating events on highly populated density cities where the average daily traffic can cause fatalities in cycling activities. This advocacy group organizes events despite their awareness of the following statistic: every 18 days one cyclist or pedestrian dies while crossing the roads of Washington D.C(Long, 2020). According to the Washington Traffic Safety Commission, the attempts to reduce bicycle-related fatalities has been going on for years. They have attempted to make longer and wider cycling lanes to achieve this (Traffic safety Commission, 2023). Another advocacy group that is taking the initiative to make DC's transportation system more sustainable is "Greater Greater Washington". This group's approach is to improve the public transportation like bus services and metro station hence, increasing their safety and efficiency (Greater Greater Washington, 2023). This is an ethical choice architecture approach because they are reducing the number of private vehicles by improving public transportation. A well-developed transportation system is not the one that has low-income class to own private vehicles, but the one that has high-income class using public transportation.

### *Successful transition from motorized to walkable cities*

The United States is struggling to become a walkable country because of the urban planning design established in the 20<sup>th</sup> century. The highest ranked walkable cities in the world like Amsterdam, Florence, and Paris, cannot be replicated entirely in the US. Realistically, it would be almost impossible to make New York's community look like Amsterdam at least for the next century. To improve walkability effectively, urban planners should turn to cities that mimic American city structures. They should emulate solutions that efficiently mitigated similar

problems US cities face. A great example would be the city of Barcelona. They were also trying to figure out a way of giving back the streets to the pedestrians. The city was also facing serious air pollution issues because they could not reach the required standards, and 3,500 citizens were dying prematurely every year. The traffic engineers in Barcelona came up with the innovative idea of “Superilles” or super blocks. The idea consists of selecting nine regular blocks and forbidding any bus or big frame truck to go through and they would have to surround the super block. Regular vehicles would have to reduce their velocity to 6 mph when they were in them too. The city measures positive changes in pedestrian space, noise pollution, and air quality (Casamona, 2022) after adopting these changes. Projects like this are more feasible in the United States; super blocks could be implemented in cities with high block density with the purpose of increasing pedestrian safety and slowly reduce the average daily traffic.

## **Conclusion**

The transition the United States is having right now from motorized vehicles to walking and cycling is difficult because of the obsolete urban design that the cities were created with. The transportation infrastructure of the dense block cities is not suitable to make the transition to walking and cycling until the average daily traffic is reduced. The incorporation of walking and cycling infrastructure in the densely populated cities is causing more accidents than benefits. The urban sprawl cities with low population density are having the opposite effect. The lack of walking infrastructure is increasing the fatalities because pedestrians do not have a safe passage throughout the city. The most walkable cities in the world have a completely different urban design than the cities in the United States, so it would be unreasonable to think that it would be efficient to use similar systems. The most viable option would be to use other cities that resemble

an American one in terms of structure and traffic geometry as an example. Analyzing, discerning and then replicating successful foreign techniques on American cities could help mitigate the issues the US is facing in the transportation sector.

## References

- Armstrong, M (2022, September 22) How the world commutes  
<https://www.statista.com/chart/25129/gcs-how-the-world-commutes/>
- Casamona (2022, May 29) How Superblocks improve living in Barcelona. *International Real State* <https://www.casamona.com/blog/superblocks-will-change-living-in-barcelona/>
- Gunderson E (2022, September 10) Traffic deaths are on Rise this Year. *WTTW*.  
<https://news.wttw.com/2022/09/10/traffic-deaths-are-rise-year-how-does-chicago-s-segregation-impact-safety>
- Hubbard, K (2020, October 16) 160 Cities lag Global Peers in Walkability. *U.S. News*.  
<https://www.usnews.com/news/cities/articles/2020-10-16/us-cities-trail-behind-global-peers-in-walkability-report-finds>
- IIHS HLDI (2022, May) Fatality Facts 2020 Pedestrians  
<https://www.iihs.org/topics/fatality-statistics/detail/pedestrians>
- Jimenez, M (2022, March 25) Pedestrian Fatalities on San Antonio Roadways. *NEW4SA*.  
<https://news4sanantonio.com/news/local/pedestrian-fatalities-on-san-antonio-roadways-rising>
- Lazo, L (2019, May 14) D.C. Council: No free rides on circulator. *The Washington Post*.  
<https://www.washingtonpost.com/transportation/2019/05/14/dc-council-no-more-free-rides-circulator/>
- League of American Bicyclists (2006) The League supports the efforts of state and local advocates nationwide. The League of American Bicyclists since 1880.  
<https://www.bikeleague.org/>
- Lewis, M (2017, January 31) The 35 Least Walkable cities in America. *Money Talks News*  
<https://www.moneytalksnews.com/must-have-amazon-products-for-foodies/>
- RMF&W (2016, August 1) Pedestrian Safety. *Rosenberg Minc Falkoff & Wolff LLP*.  
<https://rmfwlaw.com/blog/personal-injury/pedestrian-safety-the-dangers-associated-with-%E2%80%9Cwalkable%E2%80%9D-cities>
- Roberts, A (2019), April 20) Driving? Kids are so over it. *Wall street journal*.  
<https://www.wsj.com/articles/driving-the-kids-are-so-over-it-11555732810>
- Statista (2022, May 6) Number of pedestrian road fatalities in the Netherlands from 2009 to 2021  
<https://www.statista.com/statistics/523283/netherlands-number-of-pedestrian-road-fatalities/>

- Statista (2022, July 25) Value of federal highway and street construction put in place in the U.S. from 2008 to 2021. <https://www.statista.com/statistics/615654/us-federal-construction-spending-on-highway-and-street-projects/>
- Strauss, I (2021, September 21) Is the U.S. becoming more bike friendly? *National Geographic*. <https://www.nationalgeographic.com/environment/article/is-the-us-becoming-more-bike-friendly>
- Spendlove, T (2017, February 18). Designing and Building a More Walkable City. Engineering.com. <https://www.engineering.com/story/designing-and-building-a-more-walkable-city>
- Vanderbilt, T (2009, November 2) In Defense of Jaywalking. *Slate*. <https://slate.com/human-interest/2009/11/a-defense-of-jaywalking.html>
- Walk score (2021) Cities and Neighborhoods <https://www.walkscore.com/cities-and-neighborhoods/>
- Walker, A (2021, May 6) Peatonito the Pedestrian Superhero. *Curbed*. <https://www.curbed.com/2021/05/peatonito-los-angeles-walks-pedestrian-safety.html>
- Wheatley, T (2022, April 11) Georgia's Roads are deadly for Pedestrians. *AXIOS ATLANTA* <https://www.axios.com/local/atlanta/2022/04/11/georgia-2021-road-pedestrians-deaths>
- Yeung, P (2022, September 23) Cars are Vanishing from Paris. *Reasons to be Cheerful*. <https://reasonstobecheerful.world/cars-are-vanishing-from-paris/#:~:text=That%20means%20that%20while%20nine,three%20in%20ten%20Parisia>