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PWR 1OS: Freedom and Unfreedom

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Auto-Immobile: How Car-Centrism Reduces Freedom of Movement

Whoosh.

Cars race by as I push the crosswalk button a couple more times, waiting for the ominous red hand to be replaced by the friendly walking man on the screen. It must've been my third or fourth day in America, and a puzzling question was beginning to form in my mind.

Whoosh. Whoosh.

Compared to Indonesia, Malaysia, or any place I had lived before, the streets and roads of Palo Alto seemed to be extremely well equipped: sidewalks on every street; pedestrian crossings every few meters; signs and traffic lights at every intersection. Not only that, but public transportation in general seemed to be excellently designed, with buses and trains running on timely schedules that made it possible for me to go almost anywhere I wanted despite being a broke yet-to-be college student. Why, then, did getting around still feel like such a chore? Why did the closest

grocery store seem unreasonably far? What exactly about the structure and design of the city was bothering me so much?

Whoosh. Whoosh. Whoosh.

Jesus Christ these constant cars racing by were making it hard to even think about. Wait. That was it. Cars. Despite all the quality-of-life touches and efforts to improve the experience of the walking citizen, this was, at the end of the day, a city built around cars.

Since the dawn of the motorized vehicle, the automobile sector has drawn its fair share of criticisms encompassing a vast array of issues. The environmental and health demerits of cars, from CO2 emissions to car crash fatalities to increased obesity rates, are widely known and documented (Douglas et al., 2011), but in this essay we focus on the issue that kept bothering me on the crosswalk that warm August afternoon - the negative effect of cars on city design and walkability. This brings us to our central question that I'll be exploring in this essay: is the freedom of movement granted to us by personal automobiles worth the convenience and safety of pedestrians that must be sacrificed to accommodate them?

We'll begin by exploring why automobile culture is so appealing, especially in America, and what benefits cars can grant us. I'll then argue that the proliferation of personalized vehicles necessitates a city design that is unfriendly to pedestrians and walkers, and that this ends up making it impractical to *not* own a car in such an environment, due to safety issues, noise and

distances. All these things remove the freedom to walk, cycle, take public transit, or do anything except use a car. We will finish by looking at potential solutions and goals for American cities to strive towards in their transitions away from car dependence.

CARS IN THE LAND OF THE FREE

From the humble beginnings of the Ford Model T to the sleek new Tesla model Y, cars have always been a central tenet of American industrialism and growth. Their influence, however, extends beyond economics and into the cultural domain. Car ownership has, in mainstream American perspectives at least, become a key symbol of freedom and agency. Undoubtedly, the invention and proliferation of automobile vehicles to the public allowed for freedom of movement unlike any invention before it. As several scholars point out, this increased autonomy grants the car-owners of the world several practical advantages: they can choose where to live and work, travel near and far for leisure whenever they like, and are ‘less constrained by accidents of geographical proximity’ in friendships and relationships (Lomasky 1997). Moreover, sociology professor Orlando Patterson points out in particular that in segregated America, ‘for Afro-Americans the car was the first victory over Jim Crow trains and buses.’ (Patterson 2001) In this sense, cars are an amazing invention and the freedom they give us to move around wherever we want and whenever we want is something akin to a superpower;

something that can be used not only for personal pleasure, but as an active tool of liberation for marginalized communities and people in tough conditions.

The promises of the freedoms that cars grant us outlined by these scholars are especially attractive to an audience from America, the so-called “land of the free”. This is evident solely from the statistics of car ownership in America itself, where the US is the 5th highest country in terms of cars per capita (Statista, 2019). In the video essay entitled *The War on Cars*, automotive expert Lauren Fix talks about how ‘personal car ownership is a part of America’s fabric,’ (Fix 2017) a sentiment that is hardly surprising if we take into account a) Cars give people freedom and b) Americans value the ideal of freedom a lot. Putting 2 and 2 together, it is not hard to see why the United States in particular places emphasis on the pride of car ownership. Corporations seem to understand this deep-seated cultural norm in the domestic audience well, and they exploit it in their marketing. Surveys of automobile advertisements in America revealed common themes of ‘automobiles helping people reconnect with nature... or overcoming challenging weather’ (D’Costa 2013). These are all images that appeal to the allure of freedom promised by cars.

So if we were to ignore the environmental effects of cars (and that is a BIG if), we can understand why so many people have the desire to own one - it essentially boils down to a desire for freedom of movement. Make no mistake, this freedom is unequivocally a good thing. What I

will argue, however, is that car-centrism can devolve into car dependency, which actually ends up restricting our freedom of movement in the big picture.

A CITY OF CARS

If everyone in a city or town is to own and use a car to get around, said city or town must be designed in a specific way to accommodate all these huge motorized vehicles. The problem is these accommodations actively worsen other modes of movement, in a variety of different ways.

Sprawl For Nothing

In the years since the invention of the car, urban planners and city designers have become more and more outspoken about a consequence of the popularization of personal motorized vehicles known as ‘suburban sprawl’ (Duany et al., 2010). Sprawl is a pattern of growth characterized by low-density urban development with homogeneous components arranged so each component is strictly segregated from the others, so that everything is more spread out (Tachieva, 2010). In contrast, a ‘complete community’ will contain variegated components, each with a person’s daily needs all within walking distance from one another. To get an image of what this dichotomy looks like, Figure 1 shows the difference between an area characterized by suburban sprawl and an area that is more compact.



Figure 1: One the left, you have sprawl, and on the right, a complete community. (Tachieva, 2010)

Palo Alto is very much built with this sprawling pattern, and that's why it was so jarring for me when I first came here, coming from a big metropolis like Jakarta, which is structured more compactly. A large chunk of the regulations and manuals that govern planning in American cities seem to be written 'in the name of a single objective: making cars happy' (Duany et al., 2010). Roads are paved wide and broad to make driving easier, and turns have huge radii so as to minimize the use of the car brakes. Massive areas of land are dedicated to spaces for cars in the form of garages, parking spaces, and extra parking spaces so that finding a space isn't too arduous of a task. If we are to make room for every single person owning a 2-ton high-speed metal box, such excesses are virtually inevitable. Famously, the city of Philadelphia has approximately 2.2 million parking spaces and a population of 1.5 million people (McCabe, 2018). There is more space allocated for cars than for people, and there has to be, if everyone is to own a car and use it to get around. This was another thing that caught me by surprise in Palo Alto -

the sheer area of flat land dedicated to parking spaces for cars. If there was a Walmart, there was a space next to it equally as big just to make space for the automobiles.

Here lies the crux of the problem though: because everything has been spread out in this sprawl pattern of growth, people *need* a car to get around. This thus becomes a self-perpetuating cycle: a car-centric culture leads to suburban sprawl, which leads to higher car dependence which leads to more suburban sprawl, ad infinitum. Paradoxically, then, the propagation of car culture across the USA actually restricts the freedom of people living in the sprawl spawned by it. In his novel *Suburban Nation*, architect and urban planner Andres Duany relays the content of a letter received by his architecture firm by a woman living in Tulsa at the time. She describes her experience of living in her city as that of a ‘caged animal only let out for a ride in the car’, as it is ‘impossible to walk even to the grocery store two blocks away’ (Duan et al., 2010). She talks about how much she missed walking, and how it brought her to tears that there was nowhere nearby that she could just walk casually. In this sense, although it may very well be that the woman gained a lot of freedom of mobility *because of* her car, she was unable to free herself *from* her car. She couldn’t go for a leisurely stroll, go shopping, or even play with her kids without the car being involved. This was the same issue I felt when first coming to Palo Alto. Although technically everything was walkable, the suburban sprawling nature of the city made it so that walking was a horrible experience, which was only exacerbated by the fact I had to walk through stroads.

Stroad to Nowhere

In 2011, urban planner Charles Marohn coined the term ‘stroad’ (Goodyear, 2014) to encapsulate what he considered to be a major issue with road design in American cities, especially in suburban sprawl areas. The essential concept was this: a stroad is a structure that tries to combine aspects of a street and a road, and in attempting to do so achieves the purpose of neither. First, let’s outline the difference between a street and a road.

A road is a high-speed strip of tarmac between two places. It is meant for cars to travel at high speeds on, with exits and entrances being few and far between in order to maximize the efficiency at which cars can travel. A street, on the other hand, is a more complex environment where the hustle and bustle of city life occurs. Buildings and houses are placed close on either side, and there are several entrances and exits placed densely along it so people can walk between them with ease. Importantly, cars generally travel at low speeds on streets, since they are destinations, not thoroughfares (Slaughter, 2021).



Figure 2: On the left, a Toll Road in Jakarta, (Image via Jakarta Post), and on the right, the street Jalan Jaksa in Jakarta

(Image via travelblog.org)

Figure 2 displays two examples from my hometown of Jakarta. As can be seen, the road is long, without many entrances or exits and serves as a track for cars to travel fast between faraway locations. The street Jalan Jaksa, on the other hand, is small, compact and will likely have a single car going through it every 5 minutes at about 25 mph. There is a clear distinction between a place devoid of people for cars to travel fast, and a place full of people for cars to travel slow. By no means is the state of Jakarta's infrastructure ideal for pedestrians or drivers – in fact, it is one of the most congested cities in the world - but its problems arise from massive population density and a lack of funding for appropriate infrastructure rather than simply bad design.

While not exhaustive and somewhat simplified, the key point of the street vs road delineation is that they serve mutually exclusive purposes and therefore have mutually exclusive properties. When city planners try to combine the properties of a road onto a street, it is not only inefficient but it can be actively dangerous. Given a car-centric culture where people drive everywhere, the paths to buildings and houses must be designed to accommodate these cars. This means wider paths, more spaced out entrances and exits, and higher speed limits. Consequently, people are not being able to walk on them as much, and we end up with a stroad: an area that should've been a street but has been turned into a road due to car centrism.



Figure 3: A stroad in Palo Alto. Image via menlopark.org

Take it from personal experience: walking across and along stroads the likes of that in Figure 3 is exceptionally inconvenient. Firstly, since it doesn't have the compactness of a street, everything is more spread out. Instead of crossing a 2-lane street pedestrians must cross a 7-lane stroad. Moreover, since the density and speed of cars passing by is higher than it would be on a street, stroads are more dangerous for pedestrians. This is why I had to stand at a crosswalk button for 3 minutes waiting for the friendly walking man to show up, instead of just walking across the way I could've done at a street. All the while the noise from the cars driving by bombarded me, which is yet another issue; cars are noisy, and when you add more cars to a street and allow them to drive faster it's unsurprisingly noisier. It's no wonder that people don't really want to walk in these areas, despite them still being technically walkable.

Aside from restricting the freedom of movement of those who may prefer to walk/cycle/not use a car, stroads are actually astronomically inefficient for drivers as well. Since they are driving

around residential areas with a lot of buildings, houses and people close by, cars cannot travel at high speeds the way they could on a road. They also have to stop much more frequently to accommodate people crossing the stroads every couple hundred meters. Compare this driving experience to driving down a highway or a long road with no stop signs, traffic lights or pedestrian crossings. Clearly, the latter is a much more satisfying and efficient use of the driver's time. Thus, car-centric design actually reduces the mobility of cars themselves too, in addition to pedestrians.

What's worrying is that a lot of data suggests that these stroads are becoming the norm in America. Between 2010 to 2019, pedestrian deaths in the United States rose by an alarming 45%, with almost no such increase seen in driver deaths (Herriges, 2021). If it was an increase in reckless driving patterns alone, we would've seen an increase in motor deaths too. And if it was just more cars in streets, we probably wouldn't be seeing as many fatalities, since they'd be slowed and congested by the nature of a street. These statistics indicate an increasing number of situations where there are a lot of cars driving at moderately high speeds around a moderately high number of civilians. If we've learnt anything from the past few paragraphs it is that stroads are *exactly* the type of environment that is conducive to such fatalities, and the rising numbers suggest a trend of stroad popularization. Car centrism is not only restricting our freedom of movement but also quite literally endangering us and our livelihoods.

HOW TO MAKE CITIES FOR PEOPLE

We have seen how car culture leads to cities being designed to be car-friendly and pedestrian-unfriendly. Why exactly is this a problem, and what can be done to fix this? This is what we will be discussing in this section.

Man vs Machine

Why couldn't everyone just own a car? In that case, the issues of pedestrian safety and walkability become a non-starter, no? While it may seem trivial, it is vital to emphasize the value of walkability and the freedom to roam where we want.

The way we move ourselves from point A to point B has significant ramifications in public health, socioeconomic costs, and environmental well-being. Walking instead of driving is far better for our physical health, mental health and for the environment as a whole. It is a shame then, that about 90% of Americans drive to work and that not even 70% of Americans reported walking for any continuous period of time longer than 10 minutes over the course of a week (Martinez, 2015). As seen in the previous section in the case of that woman from Tulsa, this isn't necessarily because people don't want to, but because people simply *cannot* walk in an environment built to cater to cars.

It isn't simply the case that people let this happen - the streets were quite literally stolen from us by the automobile industry. Naturally, over a century ago, before the invention of the car, the streets were entirely for people to use - what else would their purpose be? Once car-related

fatalities began occurring, however, there was pushback against the new-fangled motorized death machines. However, the automobile industry began planting stories in newspapers blaming pedestrians for these fatalities (Norton, 2007), and they literally invented a new crime - jaywalking. It seems almost weird to consider it, but governmental city planning departments were practically turned into urban design industrial complexes built to cater to car manufacturers. Since then, the streets have belonged to the car, and we've shifted our entire landscape of city planning and design to accommodate them.

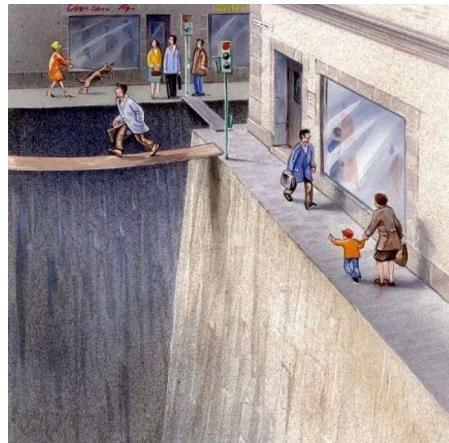


Figure 4: An illustration depicting just how much space has been stolen from us by cars (Image via Karl Jilg)

Figure 4 gives an insightful depiction of just how much space we have handed over to cars. It is quite odd to look at a modern street or road and consider the fact that there was once a time where we could've strolled across that whenever and however we wanted. And now, we wait for a flashing light to tell us when to stop and when to cross. Is this really cars giving us more freedom of mobility? How do we proceed in taking back our roads and public spaces? Is such a task even remotely possible?

Public Transit

Possibly the most obvious of solutions or alternatives to car dependency, public transportation would greatly improve the structure of our cities. Although people would still be using large motorized vehicles to get around, the key difference is how much space they take up



Figure 5: A Poster in Muenster Planning Office showing how much space different modes of transportation take up.

Image via Press-Office City of Muenster, Germany

Note in Figure 5 that the leftmost configuration where everyone travels in cars would require a large stroad-like structure to accommodate all the vehicles if you don't want relentless gridlock or congestion. On the other hand, the exact same number of people fit on the bus in the middle picture. This would mean we could narrow down stroads into streets, and thus improve the walkability of communities. Of course, if we make areas more compact like this, people would not be able to own or use cars as much, else we would need to allocate space to the storage and

parking of these cars, which would put us at square one. In this sense, it can be said to reduce the freedom of movement, but would people really even *want* to drive as much if everything they wanted or needed was accessible via walking or through public transport? Surveys reveal that about half of the respondents expressed a ‘willingness to walk some short journeys instead of driving,’ (Douglas et. al, 2011) but in a car-dependent city this is just not possible since everything is so spread out.

The big question with public transit, though, is how we pay for it. Clearly, building large scale transportation systems and networks won’t come cheap, so how can we make up for that? Well the answer turns out to be quite simple: we fund it with the increased revenue from the streets. Stroads and suburban sprawl are widely uneconomical for the government, as there is less economic activity per area, less property tax, less movement between different sectors and communities of economic activity. Research has shown that metro communities with more walkable urban areas are far more economically successful than communities without them (CREUA, 2019). This makes sense - if you can walk to work or to the nearest stores or entertainment areas, you’ll go to them much more often, and thus contribute more economically to the area. Consequently, tax revenues are higher, maintenance costs are lower, spending is higher; all these factors combined mean that the long-term economic benefit from introducing wide scale public transit and shrinking stroads is well worth the short-term cost.

Restructuring Roads

Not too long ago, the city of Amsterdam faced the same problem with car-centric design that most modern American cities struggle with today. A quick look at figure 6 illustrates how Amsterdam was able to reverse the effects of car proliferation over the course of a couple of decades.



Figure 6: The changing city of Amsterdam over time. Image via FastCompany.

How did they accomplish this? Duurzaam Veiling, or “Sustainable Safety” in Dutch. Duurzaam Veiling was a program initiated by the government in the 1990s to ensure that roads were built with principles of sustainability in mind (Treasure 2016). Amongst other things, the program demanded that all roads be one and only one of 3 possible types:

- 1) Through roads - these were roads for fast-moving cars traveling long distances between places

- 2) Access Roads - these were the end destinations for cars, and were more designed for people to walk through. Cars would only drive here when beginning or ending a drive.

These would be what we referred to as ‘streets’ in the “Stroad to Nowhere” section.

- 3) Distributor Roads - these act as the junctions between Through Roads and Access Roads.

This categorization was made with the explicit purpose to separate people and cars. A road could either be designed for people (an access road) or for cars (a through road) to use en masse, but never both at the same time. This entirely eradicates stroads and urban sprawl, and instead communities become more compact, as access roads are smaller and allow for more walkable spaces. And so what may seem like an impossible task is entirely accomplishable within the span of 20 years or so, if governmental bodies are willing to put in the legislative and fiscal effort to do so.

END OF THE ROAD?

So here we are. All the research, science and reason points to cars being a net negative for our freedoms, and yet American society continues to be inundated by them. Take a look at the average college student or high-school senior - they drive around all the time, everywhere they go, and one can hardly blame them. Why spend 45 minutes navigating public transit routes to the nearest grocery store when you could drive there in 10 minutes? Change in the habits of the populace will only come about with a change in the structure and design of the city. A myriad of factors, social, environmental, and political, feed into the roles cars play in our lives and societies, and to weigh them all and arrive at a viable solution is certainly a daunting task, but it is one that needs doing. A shift in the zeitgeist away from cars is not only beneficial, but necessary. Growth based on car dependency is inherently unsustainable, and our trajectory has

to be changed. Even if it is only for the fact that no wide-eyed college student coming into America has the same disappointing crosswalk experience I did.

Make no mistake, driving a car is fun, convenient and incredibly liberating. As the critics of car culture point out, however, this matter extends far beyond the simple freedom to own or not own a car, and affects city design, public health, climate change and so much more outside of just vehicles themselves. In order to improve freedom of movement of all kinds for all people, we must sacrifice a specific kind of freedom for some people: that of owning a car. Instead of everyone owning and storing their own car, we can have rental options and communal cars - options that allow people to drive cars now and then without having to need them. We are at a proverbial fork in the road, and how if or when Americans change their car habits will have drastic long-term consequences that will shape the country and world for decades to come.

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