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Suburbia, Unfortunately

An analysis of inefficiency and monotony in American suburbia

"Suburbia is where the developer bulldozes out the trees, then names the streets after them."

- Bill Vaughan

Table of Contents

Author's Note

The discussion surrounding the suburban landscape and its properties is often not nuanced or supportive of a change in society. After all, suburbs are where most of the American population resides and are generally seen with good favor for affordability and community.

Still, there is an echo of dissatisfaction, uneasiness, and a sense of unfulfillment following suburban life. Impoverished communities sense equity gaps as large as those in urban settings and creativity is diminished with suburbia often regarded as a "cookie-cutter" landscape. Growing up in a suburb in central Texas, I've noticed common issues and, albeit, boredom that they provide. Still, this book is not a collection of grievances I've deemed annoying enough to write about. This book is instead for the analysis of local and worldly issues that suburban life holds on disadvantaged citizens, especially those of lower income or social status. We've learned to take change when we absolutely have to: shortly after a catastrophe has occurred instead of while it's developing. The issue is, as light is cast on suburbs, they're looked to with endearment rather than for critique. Suburban issues are not prioritized because suburbs are so "great". They're decently affordable, communal, and feed car culture. What's not to love?

I've felt frustrated and even confused at the common lack of addressing suburban issues by policymakers in favor of those of the city. Ignoring any issue will only allow bliss for so long when so many are currently cascaded to living under highways or denied access to housing.

This unsustainable present will create a dangerously impending future in social policy, urban planning, and the quality of life of millions of Americans.

If not direct change, I hope to inspire a changing mindset surrounding what frames suburban life and its current issues. This book is my first step to a difference and a beacon for future perspective and analysis. Thank you for reading.

I

Why We Love Suburbs

Shortly after World War II's resolution, the United States enjoyed a vast amount of mobilization and openings in its economy for increased work and consumerism. With its continuation as holding the world's largest national GDP and from the recent Allied victory, the consumer economy thrived and the country witnessed a boom in personal capital.

Besides this monetary recovery, recall that the US was still knee-deep in an ideological battle against the Soviet Union for economic theory, namely within the Cold War. This war was fought with proxy wars, space innovation, and most relevantly: production. As goods were produced more efficiently and effectively in the essence of competition, the United States was bound for an explosive growth of consumerism that inhabited every sector of industry. Home appliances, automobiles, and extravagant accessories became increasingly more common for families, largely for the effort to make the capitalist United States seem more advanced than the Soviet Union. New inventions bloomed a new meaning to consumerism as Americans contributed and benefited simultaneously from the economy.

How could citizens afford excessive spending? Simply put, the government enabled them to. Aid from the Servicemen's Readjustment

Act of 1944 and the Veterans' Preference Act of 1944 allowed veterans stipends for education, help with employment, and support for building their lives in a post-war landscape.

Urbanization had added significant benefits for the United States in terms of the methods of industrial production. Spending on factories that used to create aircraft and ammunition turned to efforts for everyday life for industries of automobiles and new technologies; the efficiency of the factory system grew as Ford's tactics of mass production spread into all sectors.

This consumerism and heavy means of mass production became a root cause for the rise of suburban culture and its distinct tie to the American Dream, largely because homeownership was a major result. To illustrate this, let me introduce William Levitt: the father of American suburbia.

William Levitt was born in 1907 in Brooklyn, New York. A war veteran, Levitt believed in capitalism, production, and most notably a set standard of housing that was affordable and thus profitable. So he developed, in 1946 Long Beach, Levittown: a spanning suburb with large but reasonably priced houses. Levittown was revolutionary because it provided Americans with the affordable housing they wished for alongside a community of similar ideals… and similar residences. The houses Levitt and Sons built were almost identical, forming a conversation about how the Fordian assembly line crept into various other industries. With this, members of his company regarded themselves not as homebuilders, but as manufacturers with standardized policies of mass production.

Although Levittown isn't the first example of suburban settlement, it's certainly one of the most impactful. After its construction, many other suburbs sprung up throughout the United States with a similar assembly-like construction process to the very "cookie-cutter" landscape of suburbs that we observe today.

In Levitt's case in the 20th century, suburbs were loved because they were affordable. Well, affordable and anti-communist. Levitt himself stated "No man who owns his own house and lot can be a communist. He has too much to do." In other words, he believed that one deserving of a lot on his grounds promoted true American capitalism: of the nuclear family and of livelihood that ideally depends on one's effort. So for both the Cold War and its ever present nationalism, his beliefs complemented those of citizens and propelled popular suburbia.

Still, most Americans today don't love suburbia because it made us "better than the Soviets". Instead, it's typically loved because it offers the best of both urban and rural worlds, with seemingly little downsides from either.

Rural Living

With rural life, your day job is, by car, 90 minutes away, your favorite restaurant is 30, and your kid's high school is 25. Prices are pretty low for your goods, but there's a heavy amount of money you're spending on gas, utilities, and broadband.

We can see the divide between rural and urban broadband access in Texas, for example, by comparing services between Wimberley, a rural village in central Texas; Cedar Park, a suburb also in central Texas; and

metropolitan Austin. As of July 2024, the service AT&T Fiber offers speeds up to 5 Gbps in Austin and Cedar Park and no service in Wimberley. Spectrum offers speeds up to 1 Gbps in all 3 locations, but only a 57.3% availability in Wimberley and a 90%+ availability in Austin and Cedar Park.[1] While it's true that diffusion will eventually allow rural areas to access these services, there will still be a technological divide as the years progress simply because the infrastructure of rural areas cannot support the same services as cities.

This pattern is fulfilled not only in Central Texas but throughout the United States. In 2006, US metro locations saw an average of almost 9 service providers per ZIP, while non-metro locations saw an average of about half of that.[2] Even as the number of providers grows, this proportion will continue to stay the same, especially because the last Telecommunications Act that significantly changed how we access services was the Telecommunications Act of 1996.

Healthcare access is another robust point for rural living. American healthcare can have points of inconsistency and unaffordability throughout rural, urban, and suburban locations, but perhaps the most extreme exclusion occurs in rural areas.

In May 2013, survey responses from 2,501 United States residents recorded their confidence in and ability to afford healthcare services by their distance from the city core. Through this analysis, it was noted:

1. To the survey question relating to the quality of their services, suburban residents were the most confident in being treated with

the most care (76.3% confident of around 1293 respondents) and rural residents were the least (69.4% of around 535 respondents). Urban residents were midrange (70.4% of around 673 respondents).

2. The same pattern remains in the survey question about the affordability of healthcare. Suburban residents were the most confident that they could afford healthcare if necessary (65.4%), urban residents were midrange (58.2%), and rural residents were the least confident, once again (56.8%).[3]

In the United States, this issue of infrastructure is brought up time and time again for rural healthcare. Even if a rural area has a developed hospital with a full staff, their medical technology will not often beat that of the city and will instead lag behind, thus the confidence issue is proved. Otherwise, the price of services is often more expensive for rural residents because of a lack of competition, high costs of operation and maintenance, as well as limited insurance policies. Rural residents are estimated to pay more out-of-pocket costs for their healthcare compared to their urban counterparts because of the unwillingness of some commercial insurers to allow service in rural areas.[4] Rural residents are then left with a healthcare system that isn't affordable or accessible, and the same is said for aforementioned services like broadband.

Urban Living

With urban life, you can easily walk or take affordable transit to your destinations of school, work, and services pretty quickly. However, prices are high for rent and common goods. Additionally, both traffic and air congestion are likely.

We can compare rent prices across the earlier Texan comparison with the average monthly cost of an apartment. In Wimberley and Cedar Park, as of June 2024, the average cost is around $1,600. However, in Downtown Austin, the average cost is almost double this at $3,100.[5]

The simple explanation is that urban areas have a higher demand and a smaller supply of housing. The rate of homebuilding peaked maybe a few decades ago and hasn't been matched closely enough since, even with high demand from consumers. If you want to expand housing in cities, the most common action is to expand upwards. Floors must ascend for apartment expansion, so the higher-rising apartments cost even more. The available cost has increased and will continue to increase until the housing crisis ends or when more buyers expand outwards into suburbs and rural towns. Rent is otherwise elevated at a faster rate in cities because they have, on average, greater rates of growth and prioritize this vertical living.

Another downside is that as urbanization increases, air quality decreases as a direct result. The air quality in dense cities can sometimes be dangerous to a citizen's health (especially senior citizens, children, and those with lung diseases) and can be a driving factor of why someone would choose to live in a suburb or a rural town, instead.

The way we handle pollution and its regulatory premises has greatly improved over the past couple of years despite the increase in

polluting activities thanks to the Environmental Protection Agency's (EPA) recent regulatory efforts. Still, there is notable air quality concern in urban areas, especially from industrial emissions, automobile emissions, and particulate matter. Although these are very common and contribute significantly to air pollution, there are lesser-known factors to be aware of.

Air quality is proven to be purer as areas become less urban considering 'ozone days', where the level of ground-level ozone becomes too unhealthy for sensitive citizens in a certain location. In the United States, ozone days occur over 12 times more frequently in counties of large metropolitan core counties versus rural counties.[6] While rural areas can still have significant emissions that damage air quality like that of diesel-run commercial vehicles, the density of occurrence is much higher in urban areas.

Additionally, there exists phenomena known as Urban Heat Islands (UHIs) that can exacerbate poor air quality in urban locations. UHIs are urban cores that face higher temperatures than their surrounding suburbs and rural areas (1-7°F greater in the daytime). These are often caused by:

1. Urban areas containing more dark and low-albedo surfaces (surfaces that reflect less sunlight).

2. The lack of vegetation - especially that of trees - amounting to a lower cooling efficiency.

3. Anthropogenic (human) activity emitting more heat in urban settings due to a greater density.

A 1°C increase in temperature in an urban setting (above a certain maximum threshold) will increase its energy demand between 2-4%.[7] So if we cross-apply, UHIs will require a higher energy capacity. More expenditure will then be applied to electricity and cooling services, and thus power plants will produce a greater amount of greenhouse gasses. On top of it all, city residents have to bear with the heat.

Now, Suburbs

With suburban life, your day job, by car, is maybe 25 minutes away, your favorite restaurant is 10, and your kid's high school is 5. Prices of housing and goods are pretty mid-range if not advantageous between cities and rural areas: making it an ideal choice for a large portion of the population.

Of course, we can't have a conversation about American suburbia without debriefing the impacts of car culture. In 2020, over 100 million registered automobiles (including public, private, and commercial) existed throughout the United States.[8] That's 1 car for every 3 people, a ratio that only increases when solely considering suburbs. Because of expansive public transport, heavy traffic, and walkability, cities don't allow one to live the true American car dream as much as suburbs do. Gas is expensive either way, but would you rather use that gas on a wide, open road, heading to work with minimal traffic, or on a cramped one, with horns and traffic blaring at 8:30 in the morning?

In rural areas, the question changes but the answer remains the same. Yes, there's even less traffic, but you have to travel more. Plus, gas is even more expensive because of how far you're commuting. Unless you love the scenic route more than your wallet, chances are you'd rather live in a suburb.

Safety is also heavily valued for citizens seeking a place to settle down. Maybe the greatest factor for Americans selecting housing is safety, with urban stigma usually upholding the idea of its denser crime. However, in certain suburban and rural communities, crime rates are lower (depending on the geographical location and local income) than that of the city.

In 1996, Edward Glaeser and Bruce Sacerdote - Harvard economists who authored in a part of the National Bureau of Economic Research - published the study "Why is there More Crime in Cities?" to pose a grander reason for how the benefits of crime would outweigh the costs in urban settings as well as to identify the difference in the quantity of crime. They found:

1. Victims in cities are much less likely to identify their offenders than those outside of cities.

2. MSAs (Metropolitan Statistical Areas) had a victimization rate of 13.97%, while non-MSAs had one of 8.29% for all crimes documented except for rape, in which they had a small sample size.

3. In MSAs, burglary was 20% more common, auto theft was 3 times more common, and robbery was 5 times more common than their non-MSA counterparts.

They additionally attributed a higher degree of victimization to when their studied cities were denser and density was thus directly correlated to the amount of crimes witnessed in a population, a conclusion that may be linked to the first point surrounding recognition.

Something interesting I noted was that MSA residents were more likely to live in an apartment and were likely to own fewer cars than their non-MSA counterparts. This can controversially tie-in to the statistic mentioned earlier that auto theft is more common for MSA residents, although they're noted to have fewer cars: proving how density overpowers automobile ownership.

To bring in suburbs, we can look more at the statistics about homeownership crimes. They found that homeownership (including apartments) was linked to an individual's lower likelihood of being victimized as they provide a sense of protection.[9] This self-protection is especially noted to be attributed to the wealthy, who often live in suburban communities, so suburban neighborhoods may be more associated with safety as they are seen as more protected/regularly surveilled as opposed to their urban counterparts. In all, suburbs can usually get behind affordable housing, services, good air quality, and safe communities.

Notes

1. BroadbandNow, "Top 10 Internet Providers in Austin, TX," 2024, https://broadbandnow.com/Texas/Austin; "Top 8 Internet Providers in Cedar Park, TX," 2024, https://broadbandnow.com/Texas/Cedar-Park; "Top 6 Internet Providers in Wimberley, TX," 2024, https://broadbandnow.com/Texas/Wimberley. Availability as of June 2024.

2. Peter Stenberg et al., "Broadband Internet's Value for Rural America" (U.S. Department of Agriculture (USDA), Economic Research Service (ERS), August 2009), https://www.ers.usda.gov/webdocs/publications/46200/9335_err78_1_.pdf?v=9998.4.

3. Haven K, Celaya MF, Pierson J, et al., "Comparison of Health Confidence in Rural, Suburban and Urban Areas in the UK and the USA: A Secondary Analysis," (BMJ Open, May 2013), https://bmjopen.bmj.com/content/3/5/e002640.

4. Dunc Williams and Mark Holmes, “Rural Health Care Costs,” North Carolina Medical Journal 79, no. 1 (January 2018): 51–55, https://doi.org/10.18043/ncm.79.1.51.

5. RentCafe, “Wimberley, TX Rental Market Trends,” 2024, https://www.rentcafe.com/average-rent-market-trends/us/tx/wimberley/; “Cedar Park, Williamson County, TX Rental Market Trends,” 2024, https://www.rentcafe.com/average-rent-market-trends/us/tx/cedar-park/; “Austin, TX Rental Market Trends,” 2024, https://www.rentcafe.com/average-rent-market-trends/us/tx/austin/.

6. Heather Strosnider et al., “Rural and Urban Differences in Air Quality, 2008–2012, and Community Drinking Water Quality, 2010–2015 — United States,” *MMWR. Surveillance Summaries* 66, no. 13 (June 23, 2017): 1–10, https://doi.org/10.15585/mmwr.ss6613a1.

7. Hashem Akbari and Melvin Pomerantz and H. Taha, “Cool Surfaces and Shade Trees to Reduce Energy Use and Improve Air Quality in Urban Areas,” Solar Energy 70, no. 3 (2001): 295–310,

https://www.researchgate.net/publication/222581591_Cool_Surfaces_and_Shade_Trees_to_Reduce_Energy_Use_and_Improve_Air_Quality_in_Urban_Areas.

8. Federal Highway Administration, “Table MV-1 - Highway Statistics 2020 - Policy | Federal Highway Administration,” (U.S. Department of Transportation, February 2023), https://www.fhwa.dot.gov/policyinformation/statistics/2020/mv1.cfm.

9. Edward L. Glaeser and Bruce Sacerdote, "Why Is There More Crime in Cities?" (NBER Working Paper No. 5430, National Bureau of Economic Research, 1996). https://www.nber.org/system/files/working_papers/w5430/w5430.pdf

II

Is Suburban Poverty Accurately Measured?

Currently, the poverty rate in suburban areas is increasing greatly, over three times the respective poverty growth of urban areas. I believe that the growth rate may be stagnant in dense urban areas as they cannot support more people, let alone impoverished communities who will have to migrate outwards. There's a phenomenon known as 'suburban sprawl' related to this idea. With higher housing and living costs emerging in city environments, America's population begins to "sprawl" outwards into suburban areas. Yes, major cities have the infrastructure to support thousands of people, but as their population goes past their carrying capacity, their resources will drain to only be affordable to the comfortable and rich.

Impoverished communities and the poor may find suburban life more comfortable, instead. Now that immigrant communities have established connected networks throughout certain residential areas of America, deemed 'ethnoburbs' for those of the same background, some ethnic populations are likely to concentrate in the suburbs. However, even if ethnoburbs are providing immigrants with opportunities for employment and building careers, immigrants are still far more likely to be poor from current discrimination of safety nets and social services.

Suburban poverty is not a pursuit policymakers seek to address as much as urban or even rural poverty; there are often fewer resources provided for impoverished Americans in suburban areas than otherwise. In a core city, resources are often concentrated densely near the impoverished population. In suburban and rural areas, the population is less dense and the homeless will be located in scattered areas. If shelters and opportunities are given, it's unlikely that many in need will be able to access them due to larger distances or a lack of numbers.

The typical urban county will spend far more capital on improving impoverished populations than the typical suburban or rural community simply because these communities do not know how to diagnose and treat poverty from the lower density and do not want to facilitate larger operation costs, traveling site to site. Government visibility is another issue. Regardless of the rate of poverty growing in suburban areas, urban locations have always been associated with poverty and the government has provided urban locations substantially more aid for its alleviation than suburban and rural locations (even considering this aid is not close to enough to what they necessitate).If suburbia has been associated with blooming American dreams and the wealthiest proportion of the population, how can its poverty rate be so alarming?

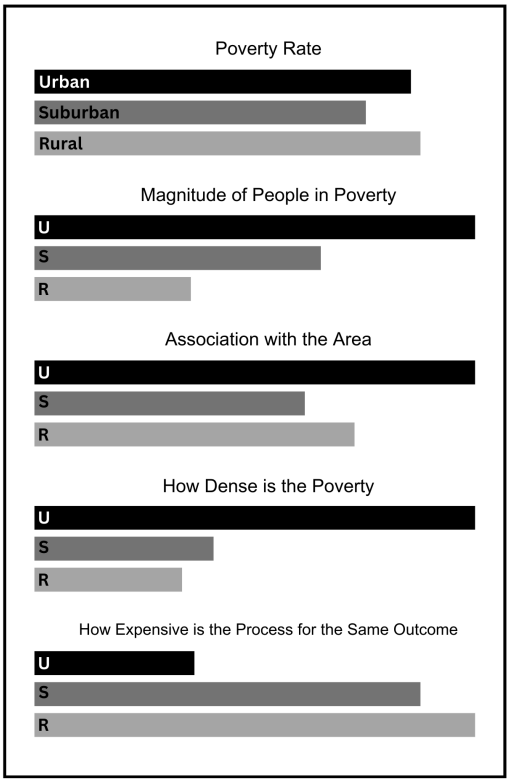

Figure 1. Relative comparisons of some conditions of poverty and circumstances for solutions across urban, suburban, and rural areas.[1]

Although I analyzed Census statistics on the issues of poverty, I believe these statistics aren't always telling of the whole situation, especially considering the way that the United States measures it. If poverty is defined as being below the capability to afford necessities like food, water, and housing - then wouldn't the baseline for poverty be different in any county, even more so in a state or a region? The United States has used a controversial threshold system for documenting said poverty, simply adjusting for the household number (working adults,

non-working adults, and children) and not a geographical residence or status of dependency for the 48 contiguous states (and DC). They offer Hawai'i and Alaska a raised cost of living but do not offer the same for states like Massachusetts and New York. For these statistics, a family of four anywhere in the 48 contiguous states is considered impoverished if their annual household income is under $30,000. This does not work.

Poverty shouldn't be solely described by income, but the resources and opportunities of education, basic needs, and healthcare, too. One's income level cannot simply suffice to explain if they are impoverished or not. When we consider measuring something as impactful as poverty - dealing with over 37 million people currently labeled - we should not lazily categorize its benchmarks. The poverty rate has been noted to be stagnant or barely increasing over the past couple of years, but amongst rising housing costs and inflation's premises, this assumption doesn't tell the whole story. Poverty is widespread as it stands, but the fact that it's miscalculated and thus cannot fully illustrate its damages exacerbates its issues. For this reason, not many have an elaborate understanding of poverty's challenges and applications.

If the Census changes the way they collect data about poverty, they should begin to examine individual counties as well as their respective metropolitan areas separately for an accurate measure that can allow local, state, and federal action to become more efficient and effective.

The **Sen I Index**, or the **Income Gap Ratio**, is one way to measure how deep an individual or population is in poverty. One way to write it is:

$$I = (p - \ell) \div p$$

Where p is the poverty line's mean annual income (specific to the county or metro/non-metro location), ℓ is the subject's annual income (mean or individual), and I is the ratio. A ratio where $I < 0$ means the person or population is not impoverished in terms of their income, while a ratio where $0 \leq I \leq 1$ means they are.

This index is simple yet descriptive when compared to its alternatives like the Head Count Index - which doesn't measure how deep someone is in poverty - but it does not account for other circumstances, more specifically: basic needs, healthcare, and education. For each of these specific factors, I created specific composite accessibility indexes.

For the **Basic Needs Accessibility Composite Index (K)**, accessibility will be based on a couple of factors:

1. **Proximity (P)**: How physically far someone is from establishments that provide food, water, and shelter on a scale of 0-1, a value of 0 being households closest to establishments or those able to drive/take public transport without much expenditure. A value of 1 would be an example of a food desert with no affordable transportation available.

2. **Affordability (A)**: How affordable basic needs are to a lifestyle on a scale of 0-1, a value of 0 being a small percentage of one's income and fulfilling for their lifestyle. Someone ranked with a value of 1 could be impoverished with a very low income in the city, where prices of goods are high.
3. **Service & Resources (R):** How helpful a community is in providing the subject with aid, safety nets, and resources that allow them to secure basic needs on a scale of 0-1, a value of 0 representing a community that has institutions like soup kitchens, shelters, and programs for bettering a subject's life. A ranking of 1 could be a geographically scattered town or suburb with little to no services available.

These factors can often be codependent. Public transportation, for example, could reside in any 3 of these options. I haven't provided too elaborate of an explanation for how to measure these factors as I instead wanted to provide a stepping stone for future ways to interpret and collect data about poverty.

Here's the starting equation for the **Basic Needs Composite Index (K):**

$$K = P + A + R$$

One might argue that proximity is more important than affordability in their community or vice-versa for another, so we can assign weights like:

$$K = (w_p \bullet P) + (w_a \bullet A) + (w_r \bullet R)$$

and

$$w_p + w_a + w_r = 1$$

If a community's proximity is the most important for alleviating poverty, followed by accessibility and then resources, one can add weights like 0.6 to equal w_p, 0.3 to equal w_a, and 0.1 to equal w_r, as long as they add to 1. More precise factors can be estimated or exactly selected for accurate measuring. The final weighted index score will be scored between 0-1, 1 being the most out of access to basic needs. If unweighted, it will be scored between 0-3.

The same equation and idea of weighting can be used to generate the **Healthcare Composite Accessibility Index (H)** and the **Education Composite Accessibility Index (E)**.

To get the final **Composite Accessibility Index (M)**, the equations will change to:

$$M = (w_k \bullet K) + (w_h \bullet H) + (w_e \bullet E)$$

and

$$w_k + w_h + w_e = 1 \text{ (scale of 0-1)}$$

or

$$M = K + H + E \text{ without weightage. (scale of 0-9)}$$

The importance of opportunities for basic needs, healthcare, and education will be reassessed based on a community, leaving a larger composite equation.

Now we can connect C with the **Income Gap Ratio (I)** from before to consider both income and accessibility. The **Depth of Poverty (P)** will then be related to the equation:

$$P = (M/9) \bullet I \text{ (if unweighted)}$$

Or

$P = M \bullet I$ (if weighted)

Since M, when unweighted, is measured on a scale of 0-9 while I is only on a scale of 0-1, dividing the final index measure of C by 9 will ensure that C isn't overpowering the total score for the first equation. Now P will be measured on a scale of 0-1, 1 being the deepest someone is in poverty. This equation assumes that income and accessibility weigh equally for an impoverished individual or population's situation. This is not usually the case, but the accuracy will not be hindered greatly while using equal weightage. There is an easy way to alter the equation:

$$P = [w_m \bullet (M/9)] + [w_i \bullet I]$$

$$w_m + w_i = 1$$

But now the index will be measured on a scale of 0-2.

For suburban poverty, this equation can bring out the fact that even when suburban populations may need less of an available income than city populations to live comfortably, their key resources like healthcare, education, and basic needs must be accessible and dense.

It's only when the government begins to consider this accessibility when measuring poverty that suburban poverty will be comprehended and possibly alleviated on a larger scale. But can suburban poverty be allocated for with urban poverty ongoing? Suburbs

cannot support the same amount of impoverished people, but as gentrification rises and the poor are forced to move outwards, suburbia can collapse. The impoverished can't afford housing in gentrified cities, but they can't afford housing or transportation in suburban areas, either. In this way, they're trapped and forced to form settlements of their own.

This type of density observed in impoverished settlements allows support programs to more easily benefit people. Still, these areas are often in a tricky spot: the line that bridges suburbs and urban areas. If the impoverished cannot afford transportation in suburban areas, the outskirts of the city are the farthest they can reasonably travel without expenditure. Far away from the core, operation costs of transportation for organizations that offer aid increase so their willingness to cooperate will decrease.

Unsupported, informal[2] housing then forms: housing that is not legally registered but instead occupied. Like ethnoburbs, these communities foster employment and housing opportunities, although of lower pay and quality. The issue of living in the urban outskirts is that one's access to developed city services will decrease as their settlements expand outwards to suburbs. This method of migration is increasingly common and a key reason why suburbs have a high growth rate in poverty. Unfortunately, the increase in poverty will lead to their communities gaining damaged services as their suburban sprawl can relocate businesses to wealthier areas.

Using my index to loosely understand if the depth of poverty will marginally increase when the impoverished create these settlements, it's clear that it deepens. Even if a settlement offers its communal services, it

will not be as effective as direct city aid. Meanwhile, proximity and affordability decrease, and income will not rise significantly enough for change. Thus, these communities do not usually see a net benefit.

An argument overstated is that poverty should be blamed on the individual for not taking action or being caught in addiction and harmful circumstances. This falls apart, however, considering that just "working harder" cannot lift many out of poverty. If an impoverished person gets a job or multiple jobs, they will still not be able to support themselves financially in an urban area. In a suburb, where housing and the cost of living are usually more affordable, employment opportunities are less plausible. There are only 24 hours in a day, and between working a 9 to 5 or a 9 to 8 for extra pay, the gap between being comfortable and earning a wage will move further apart.

To demand some impoverished people to "get a job" is also out of the question. Those who have addiction, health issues, criminal records, bad credit, and inability to travel to work make the labor force a desert. Some may secure public service jobs with low pay or verification, but even those will not suffice for a comfortable lifestyle and will be extremely hard to acquire even with a generous employer. I beg people with a "work harder" mindset to be kinder.

Notes

1. Canva, created by Canva Inc., design for poverty comparison graphic, created by Gowri Maracany, accessed August 2024, https://www.canva.com.

2. Informal housing is more understood when discussing poverty in third-world countries or those with accessibility much worse than that of the United States. My intent was not to throw this word around as it is insensitive to label American circumstances the same term that is used for squatter settlements in, say, Peru or Afghanistan.

III

Gentrification

Gentrification is a very loose term, especially considering its changing conditions over the past few decades as well as its negative and positive allowances for a population. When gentrification was coined back in 1964 by Ruth Glass, - a British sociologist and urban planner - its conception dealt with labeling communities where wealthy residents would move in and make the area unaffordable for those of lower income. Often, its ideas are framed as beneficial as redevelopment allows for less crime and a lowered poverty rate, but these results can only come to fruition as displacement of the previous lower-income residents occurs.

Poverty is never going to decrease when a suburban neighborhood is gentrified. Yes, the poverty *rate* will decrease *in that area*, but it's not decreasing because gentrification allows the original residents opportunities and aid to make a living wage. It decreases because people in poverty will be forced to move to other neighborhoods and environments, where the process will repeat. The magnitude of those in poverty stays the same and can even increase in gentrification circumstances, considering the different methods of displacement.

Direct displacement happens when current low-income residents cannot afford raised costs of housing or basic necessities after

gentrification is widespread in their location and are conditionally forced to move out.

Indirect displacement happens when it's not the current low-income population being impacted, but more so future low-income populations looking to move to a specific area as they cannot afford the newly inflated housing and living costs. Both directly and indirectly, gentrification's displacement drives out lower-income communities and blocks their re-entry. It's a common argument for gentrification that displacement is simply an occasional consequence, but in reality, displacement will always occur where there is gentrification.

Discrimination that impacts the suburban neighborhoods of black and brown residents is perhaps one of the most alarming trends of gentrification's displacement. Although the Fair Housing Act of 1968 ensured that racial discrimination against the sale of housing would be prohibited, its intentions for an integrated and unified population did not end up succeeding. The segregation that the United States attempted to forbid continued up to the modern day, although maybe not as known or as intense as prior. We can understand this using an Index of Dissimilarity (DI), largely used to measure racial or social differences in communities on a scale of 0-1, 1 being very segregated. From 1980 to 2010, White-Black dissimilarity has only decreased by about 0.13 from an initial value of 0.70. Additionally, White-Hispanic and White-Asian dissimilarity has been largely stagnant in a moderate range of segregation, although with average index values less than that of White-Black dissimilarity.[1]

This segregation continues in suburban neighborhoods, where a phenomenon deemed "Black flight" is having outreaching circumstances. Black flight is the migration of African Americans from inner-city neighborhoods into communal suburbs, a pattern noticed since the 1960s. Between 2000 and 2010, large American core MSAs saw a decline of over three hundred grand Black residents in favor of neighboring suburban areas.[2] Perhaps the idea of ethnoburbs is brought up again as Black suburban culture is instilled and especially vibrant in the suburbs their communities relocate to.

Racist urban policies have thrived before when vulnerable communities were offered an opportunity to revitalize. Redlining and a general hindrance to economic opportunities refuse to offer African Americans and their communities wealth and stability in low-income areas. Sunnyside - a low-income neighborhood in Houston Texas on the brink of gentrification[3] - and hundreds of other neighborhoods throughout the United States will see the inevitable displacement of the very citizens who built beautiful institutions and meaningful suburban structures if ethical action isn't taken soon enough.

But for areas like Sunnyside, shouldn't revitalization occur? With poor infrastructure, suburban food deserts, and a lack of employment, something should be done to uplift the community but not kick out prior residents. Low-income communities will indeed travel to wherever the most inexpensive location is, but is there a way to improve their existing inexpensive location without forcing their displacement? We can look at this analysis through a couple of key ideas:

Education

Maybe the most pivotal reason why opportunity is so weak in generally impoverished suburbs is because the ability to attain proper education is so low and often disapproved of. Why invest in university as a low income individual if it dries you of the very money that you worked hours for?

Otherwise, it's harder for older populations in these suburbs to find jobs because most of them do not have a higher education. Their leap to employment cannot start if even non-skilled jobs do not employ them for having poor credit scores, no references, and no available transit to work. Again, unemployment for the impoverished or the low-income does not remain because they "do not try" (they do) but rather because they don't have an adequate pathway or the necessary connections to do so. For this reason, education should be guaranteed by shifting how schools and their teachers offer opportunities for not only immediate youth, but for older generations, too.

In terms of the existing schools in low-income areas, federal and local programs alike should ensure that more aid is provided to underfunded or understaffed districts. Accessible tuition and guarantees for future opportunity should be readily offered for students who have expressed intention to drop out of learning to support their families.

Workshops and a lower student-to-teacher ratio should ensure deliberate and attentive collaboration. Teachers should be paid more (in general) and should be given incentives to educate in lower-income areas. Salaries less than 40 thousand are in no way affordable for the current climate, but local fees still expend more for public schools in

more developed, high-income areas. Low-income students going to school with teachers that regularly relocate in pursuit of better salaries, a lack of funding to even guarantee meal programs and unclear career guidance offered to the student body are the very reasons why graduation rates are so low and impoverished youth are trapped to follow the same pattern of struggle.

But where would the government even get these teachers? The teaching shortage seems to be on a never-ending increase and with the little money that teachers make, only a small percentage of Americans choose the education route in the first place. Perhaps the United States must first rethink how it's applying value to teachers.

Basic Needs

Despite food deserts being considered an urban issue, suburban residents are the most likely to be food insecure. Not only is availability for transportation slim, but walkability is almost never provided in suburban locations and some kind of personal motor vehicle is always required to get to places like grocery stores and restaurants. According to food pantry clients interviewed in Iowa, suburban clients were the least likely to have access to adequate transportation, group meal sites, food stamps, community gardens, and Women, Infants, and Children (WIC) programs available for their diet.[4] As we continue to ignore suburban low-income resources, a conversation must play out to consider non-urban areas when providing nutrition and other basic needs.

The most obvious, direct solution would be to simply build more grocery stores. However, with little incentive for profits, popular chains

like Walmart and Kroger do not usually invest in building stores in low-income areas. While the government could sponsor specific benefits to allow them to set up in low-income areas, low-income residents may instead turn to farmers markets or other locally owned businesses as is the case in rural areas. However, this is even less common and when these establishments are set up, they're known to be more expensive due to a lack of standardized prices from operational costs not guaranteed by an overarching organization. For example, although not a continental state, Hawai'i's food deserts make up 10% of its census tracts but host less than 20% of farmers' markets.[5]

Otherwise, walkability and means of public transport should be more accessible in suburban areas instead of continuing to support a culture of solely privately owned automobiles. Even if a healthy and affordable grocery store is within one's zip code, the effort to travel can discourage them from actually accessing the food, especially if they're elderly or injured.

On this end, food stamps, WIC programs, and delivery services that are known to be lacking, according to a previous study, should attempt to expand their reach throughout suburban areas. The stigma surrounding suburban areas being "rich" for those wealthy enough to settle down cannot be representative of the entire population. Especially with a growing impoverished population, this model area myth cannot continue in ignorance. We must allow for change. Collaborative councils and efforts for communal support can be activated with advocacy for subsidized farmer's markets, expansive options for food delivery services, and actionable steps in a given community to establish gardens

and local grocery stores. Organizations like the Los Angeles Food Policy Council (LAFPC), for instance, endorse the improvement of nutritional equity in Los Angeles with communal and legislative projects to benefit all. Similar organizations have been built in various large core cities, but perhaps the same types of organizations should be implemented in suburban areas.

Housing

If handled without increasing the cost of living, efforts for basic needs and education could generally revitalize the community-led necessities of a population. However, infrastructure and public projects that are associated with demolishing and reconstructing housing and architecture may be harder to regulate. This ties directly backward into gentrification and its inevitable consequences. What's supposed to help the impoverished and the low-income residents of suburban areas will hurt them as the cost of these renovated buildings end up increasing as do the rent prices for existing payers.

A few solutions are commonly discussed for unaffordable housing and renting after gentrification takes shape. Some are based on nonprofit organizations like Community Land Trusts (CLTs), whereas others are dependent on the government like inclusionary zoning or public housing.

Community Land Trusts (CLTs) are unconventional housing practices meant to keep homes affordable. The concept is that the homeowner owns the house itself, but the land it rests on is attributed to a non-profit that buys it and ensures its housing price stays affordable for

future buyers. While advantageous to low-income residents, those who sell it after a few years won't be able to find other housing easily because their home's selling price doesn't increase with the market. This solution works, but only if a homeowner is comfortable with the process and able to seek other forms of housing afterward if needed.

Inclusionary zoning permits can be enforced by the government to mandate building companies to ensure that a portion of the housing they build is affordable. The issue with inclusionary zoning is that the population deemed by the housing provider to be low-income and deserving of affordable housing is not defined enough, instead creating exclusionary zoning with universal unclarity. In other words, the concept is sound but building companies and local communities often execute it improperly.

Both ideas often spark controversy either because they are too distant or unfamiliar or because they can have potential drawbacks, especially for the people they're meant to protect. Still, I recognize their efforts and ability to support specific neighborhoods.

Otherwise, the idea of slowing gentrification can be implemented on a local level by implementing lighter taxes for low-income residents. By adjusting property taxes to combat the displacement of the community's long-standing populations, the magnitude of gentrification's problems will decrease . A gradual percentage increase across incomes of property taxes instead of an immediate implementation could allow for slowed displacement.

But how "slow" can we guarantee displacement? It's hard to even predict how long gentrification's aspects will habilitate an area. To

estimate how long it may take to reach peak gentrification in an area, we can use a model dependent on coefficients, similar to what the hedonic model looks like (not its purpose), as well as the composite index created in the previous chapter. This would theoretically be calculated 1 year into an area's ease into gentrification.

Let

$$\frac{1}{4}[(\frac{1}{1-L_d})(\frac{D}{10}) + L_g G_p + L_i I_p + L_e E_p + L_w W_p] = T$$

and

$$L_d + L_g + L_i + L_e + L_w = 1$$

where

D = The total number of large infrastructure or renovation projects in 1 year after gentrification begins,

$\mathbf{G_p}$ = The % increase in property values for 1 year after gentrification begins,

$\mathbf{I_p}$ = The % increase in the mean income of residents for 1 year after gentrification begins,

$\mathbf{E_p}$ = The % increase in private investors for 1 year after gentrification begins,

$\mathbf{W_p}$ = The % increase in public investors for 1 year after gentrification begins,

T = The total number of years gentrification will take to displace until its peak rate,

and **L** values are weighted coefficients of these factors; the larger the importance of a value in a specific neighborhood, the greater the **L** value should be.

The significance of the **D** variable may need to be shifted based on the community but using this model with a percentage increase of **D** like the other variables wouldn't necessarily work out because its percentage would often be over 100% while the others, which are arguably more important to consider, will have percentages less than 20%. Weights and fractions may cancel out this effect partially, but in some cases, it may be wiser to use the equation without considering **D**. In other words:

$$\frac{1}{4}[L_g G_p + L_i I_p + L_e E_p + L_w W_p] = T$$

Still, these equations remain rough estimates and are difficult to completely guarantee. A gentrification model hasn't been agreed on in the past, whether it be because of the time it takes to largely displace a community or gentrification's general magnitude of displacement. For this book, considering that these factors are the most necessary, this equation roughly predicts the time frame. A reasonable policy should be enacted and then altered based on annual change and predictive analysis to disseminate aid or resources effectively. With input from local councils and community hearings, action must be taken to ensure the least amount of displacement and the greatest amount of satisfaction

while adjusting to their neighborhoods' changes. Again, the equations and indices I'm providing are not the primary focus of my work; they serve as a foundational concept for potential further exploration and are not to be taken as completely accurate.

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IV

Suburban Impersonality

Between displacement and the echoing issues of poverty in suburbia, its appearance is probably the least of its worries. Still, when suburbia is viewed as a drab landscape of automobiles and dystopian housing, it needs to be understood as something that must be improved on.

Many American suburbs utilize a method of urban planning known as Euclidean zoning, where land usage is separated based on its purpose. Within this zoning method, industrial settings will be separate from retail and residential neighborhoods. Besides density and a lack of adopted vertical planning, suburbs differ the most from urban areas because of Euclidean zoning. The urban landscape's mixed use zoning is one of the reasons why cities are so walkable and why Euclidian suburbs are so "cookie-cutter". Sure, shopping districts and residential streets are common, but they are in no way as un-concentrated as those that exist in suburbs. Leaving walkability out to rot rips apart a lot of the communal values necessary for suburban populations, especially that of children as they grow in between concrete and cars.

Suburbs are known to mute creativity and the ability to foster communities of artists. Instead, cities are most associated with their art scene and contain some of the world's most renowned painters, musicians, and dancers. With graffiti decorating metro walls and acoustic strumming echoing as people walk past bustling districts, urban expression is always encouraged with blossoming cultural spaces that continue to thrive. But can the same be said for suburbs? Suburban art conventions and cultural hubs that recognize local artists are rare, underfunded, and largely unknown by many. It's not that suburban artists don't exist, it's that suburban artists are recognized maybe fifty times less than their urban counterparts due to a lack of connection or platform. This results in areas lacking significant unity, connection, or even quality of life as every street feels so similarly mundane.

Impersonality is the biggest word to be related to this idea. Communities that do not directly support interaction or some type of excitement may cause their residents to feel lonely or bored. It's known that suburban residents are often more depressed than their urban and rural counterparts, but this cause is not easy to track down or necessarily analyze as an association with impersonality.[1]

Rural communities see large concentrations of art as culture within their spaces. For centuries, rural areas have been considered still and largely unharmed by man. Nature is art's favorite muse, so rural

communities can often make up for a lower density of their population. Urban areas still have more opportunities, but rural areas can form tight communities of artists and enjoyers just as easily. However, suburban areas haven't made up for a lack of beauty or a lack of density - their inspired art is often modeled off of dystopia because of their uncanny normality. This style of artwork is uncommon and can often go unnoticed next to city artists' modern creations like 'Kissing Coppers' by Banksy (2005) and The Graffiti Hall of Fame in New York: creations that spark beautiful conversations as well as social change. Street art like that of Banksy can pressure political action and the aforementioned social change. In his installation "Better Out than In" in New York City (2013), he pressed on various social issues from societal mockery of people in poverty to animal abuse, creating art that makes one stop and contemplate an enhanced perspective. Statements like these drive progress and create future urban improvement as nonverbal call to actions. While graffiti can be a sign that an area is less protected by local law, denying the sight of murals and other approved installations can mute communities of artists and activists alike.

As opposed to urban populations, the stereotype of a suburban population tends to be more exclusive and homogenous in belief. Although I think this generalization is dangerous, suburban areas wouldn't be hurt by expanding their expression. Sure, murals and museums don't automatically change one's beliefs (or that of a

population), but their integration into a space drives public interest and conversation. Especially with a majority of suburban residents being higher income, it's easier for their individuals to be blocked from understanding diversity and its importance.

Now that racial diversity is beginning to be more common in suburban locations and neighborhood segregation is decreasing (White to Non-White dissimilarity index value of 39.3 in 1990 to 33.0 in 2000[2]), the future is hopeful for changes in mindset and experience, although trickling in slower. Traditional values like the idea of the nuclear family are unlikely to stay very relevant in future discussions, but a lack of walkability and vivid community may stay stubborn if no future action is taken. Still, I disagree with the premise that suburbia will instantly become a better place because of diversity - suburbia is often tied to selective networks of communities, after all. It matters more about how these communities interact and gain an understanding of their mutual issues to craft a community of vibrant collaboration.

Dangerously, suburbia can foster alienation by its isolationism. My upbringing was categorized by a love for the urban and rural landscapes that I admittedly romanticized to fuel passion and bright new experiences: bored by the enclosing circumstances of suburbia. Though it may be a personal anecdote, this perspective is shared amongst suburban creatives. In an analysis of Shirley Jackson's gothic fiction novel "The

Road Through the Wall", the suburb that the subject lives in is said to become uncanny (as a description of Freud): unhomely at best and disturbing at worst.[3] Though not heavily researched, this idea of detachment in suburban areas may cause unhealthy mental states, either by the surrounding environment's irritable factors or by stressful daily contact.

As proved earlier in this chapter, depression is linked to suburbia, but the reason why is often blurred, too. Yes, the issues mentioned like the lack of communal culture are valid, but the degree to which they are are not assessed well enough to make solid conclusions about suburban depression's causes.

Some of the best ways a community can relieve mundanity and spark a better community are listed:

1. **Murals & Public Art:**
   A mural project in various areas of Europe - Kaunas in Lithuania, Waterford in Ireland, and Heerlen in the Netherlands - proved that hosting collaborative workshops and community-led murals began the revitalization of the communities' connection.[4] Initiatives that would support the implementation of public art will generate identity and new learning experiences. Otherwise, the benefit of representation and safety can be enforced as minorities can feel welcomed with art focused on LGBTQ+ pride, minority appreciation, or callouts for the community, for

example. Public art can address issues from political fragmentation to systematic racism[5] and is something that will encourage both a celebration of diversity and a spirited landscape.

2. **Walkable Amenities**

   Walkable neighborhoods are a well-acclaimed method to promote safety and community. Social interaction can be encouraged as well as active living and the general quality of life for residents. For instance, when residents moved to Mueller, a mixed-use community in Austin, Texas, their automotive use compared to their previous neighborhood decreased by a mean difference of 90.1 minutes per week while community walking increased by 47.7 minutes per week.[6] Health and a shared sense of place can be promoted beautifully amongst suburban residents by implementing more mixed-use and pedestrian-friendly elements. Otherwise, it's simply the right thing to do. By focusing our attention on automobiles and car culture, we ignore the large impoverished populations in suburban areas that cannot easily travel for work or amenities without some large investment in an automobile. By demanding walkability, a community is one step closer to universal access and a better future.

3. **Cultural Centers**

   Cultural centers or similar facilities can allow a population to

understand their community's past and current identity. Prominent ethnicities in a neighborhood can feel represented with designated events for holidays celebrated in these centers alongside a grander local community and youth can explore diverse ideas and passions for their future with hosted workshops and accessible events. Hosting recreational activities of the like will ensure meaningful celebrations of heritage, unity, and a love for life. However, organizations that support and sponsor events for this celebration are often underfunded and lack adequate public capital, especially those that bring attention to African American and Hispanic communities. Before a needed conversation about readily concentrated cultural centers, communities must first prioritize their financing through campaigns for change to represent quality and appropriate support.

4. **Community Gardens & Parks**

   To foster healthy interaction and an accessible source of produce, community gardens are heavily beneficial. They liven residents and can be easily executed with neighborly collaboration, but their placement must be observed carefully as they may accidentally promote gentrification in an area as green space can increase a nearby (within 100 meters) value of residences by 3-4%.[7] The same rule can apply to public parks or general greenery, so neighborhoods must stay mindful and considerate by enacting policies that will prevent displacement.

Notes

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V

Uniquely American Suburbia

The idea of an "American-style" suburbia is something that various other nations actively pursue. Because of Westernization, the romanticization of the American dream as well as its institutions causes a global want for the same favorable characteristics of a suburb: a backyard, safety, and less traffic. While these are mainly consumer requests, developers express similar themes in the hopes of acquiring the same success as the United States in their urban housing districts, as well as in other services like resorts and shopping centers.[1] While impossible to replicate or instate all the same urban layouts and laws in the United States, the design and priority of these suburban homes and their surrounding neighborhoods can have astounding similarities. For example, the gated neighborhood Emaar Arabian Ranch in Dubai houses high-income residents with Arabian style but American suburban standards like wide roads and car-friendly streets. Unlike many areas of the United States, this neighborhood provides accessible transportation and is not car-exclusive, even though its residents earn a higher income. Even other Western nations took inspiration like the town Milton Keyes in Buckinghamshire, England. Milton Keyes developed a wide road grid system that was innovatively accommodated for traffic mitigation based on the then-modern developments that emerged in the States.

Melvin Webber, a Californian urban design authority inspired many of the stated characteristics that were implemented in Milton Keynes, further including the concept of having a less dense, but highly interactive and engaging community as well as an American layout.

Just as a refresher, Levittown - the first suburb developed in the United States - was developed in 1947, shortly after World War II's conclusion. In 1946, The United Kingdom began to adopt the development of towns similar to Levittown through the New Towns Act which attempted to control the rapid spread of urban settlement and direct it into towns. It's hard to classify these British towns as suburbs because of their priorities in a quaint living area. The British were not competing with the Soviet Union at the same level as the United States, so the ideas of Fordism and mass production were important, but maybe not as valued when planning residencies. Milton Keynes was developed under the New Towns Act in 1973 for maybe reflective reasons of the development of Levittown and further suburbs: to rebuild war communities and to house residents who will represent the country's ideas.

Sure, American suburbia has been influential, but some countries have accomplished its essence and a lot more. For this chapter, I would like to compare the United States' suburban sustainability, transportation, rate of poverty, and opportunity to China, Canada, Japan, and the United Kingdom. Regarding my choice of comparison, there are certainly developing countries that have developed some form of suburbia (eg. India, Mexico, Nigeria, Indonesia) but for this study, I find it fairer to

compare factors like poverty and displacement amongst other similarly developed nations.

To start with the United States, let me summarize what has already been mentioned. Suburbia was developed as a response to factors of the Cold War, car culture, and the nurturing of the American dream. Public transport does not usually extend to suburban areas, opportunity is lacking, and displacement as a result of gentrification is very common. Wealthier American residents usually prefer suburban areas, but the impoverished population is still significant and has become more noticeable over the recent decades.

China

In November 2012, Xi Jinping promised the potential of a "Chinese Dream" to develop and lead China to innovation and global recognition. Besides a play on words of the American Dream, China has developed other similarities that strongly resemble it, i.e. suburbs.

Especially in the city fringes of cities like Shanghai and Beijing, Chinese populations have settled down at an unprecedented rate. For some similar reasons to American populations today like higher crime rates and pollution, the idea of settling down in a less dense suburban area is often favored. Urban locations in China are overcrowded due to a priority of low-rise building development, so families are often pushed outwards in what is known as high-density sprawl. Something notable about these urban locations is that walkability is not at all guaranteed. Sure, traffic and pollution can make walking unfavorable, but there is

little infrastructure that is both pedestrian accessible and easy to trek through.[2]

Chinese urban areas may be vastly different than those of the United States, but many of their suburban residential areas are extremely similar. Modeled off of car culture and a fostering of economic prowess, pollution and a lack of walkability guarantee that Chinese suburbia isn't perfect. Still, the progress China has made in attempting green, high-technology developments is remarkable and something that American urban planners should take note of. For example, Tianjin Eco-City - far from Tianjin's urban core - hopes to acquire a fifth of the town's usable electricity from renewable sources.[3] Besides sustainable development, China has made its goals clear for transportation, too. Without depending too heavily on car culture, Chinese bullet trains and general railway services are beginning to expand towards their suburbs. It's generally acknowledged that China has the greatest globally recognized high-speed rail ability and progress, but the fact that its accessibility can reach suburban populations, too, is just as impressive in my opinion.

It makes a lot of sense, though. While the United States tends to allow for less public transport to feed car culture and usually get away with it, China doesn't have the infrastructure to do the same. More public transportation in China is favorable simply because its urban density is so high. Even though China and the United States have similar land areas, China has a population density maybe 4 times greater. If the same ratio of people in China had cars as that of the United States, traffic and congestion could be overwhelming. To ease some high levels of both

traffic congestion and air pollution, China has implemented limits on vehicle purchase and use for private purposes in cities like Beijing with systems like a lottery system - where only some people on a month-to-month basis can purchase a vehicle. So while the idea of American-style car culture is celebrated amongst Chinese populations and maybe is even a sentiment of the Chinese dream, government and urban planners alike recognize that this idea does not have the same geographical backing in China as in the United States.

Even if great automobile usage is more favorable in the States, I don't think it means that we should continue to encourage it. If accessibility becomes even more of an issue without us even expanding rail in major cities as car usage and population growth thrive, what can we truly guarantee the underprivileged? Like China, the United States must expand and improve our public transportation, as well as how we execute sustainable practices.

Canada

The way Canadian suburbs developed is a method extremely similar to that of the United States. Post World War II, consumerism was at such a high level that the Canadian housing market began to be affected, too. A huge factor was the fact that there was a large housing shortage which limited citizens to rebuild their lives in a post-war landscape. Because suburban development was affordable and would be able to support so many young families, its growth was inevitable, especially in areas susceptible to becoming more modern.

In 1950s Toronto, Don Mills was established: a residency that hoped to offer Canadians a place of settlement and community. I wouldn't say that Canada had a huge impact on the United States (or vice-versa) because both suburbs developed at a similar time and from a similar motive, but the Don Mills residential area had some form of American influence. One of its developers, Macklin Hancock, was a Canadian resident who studied at Harvard University's Graduate School of Design (GSD) and was still a student at the time of creation. Reading about this made me inquire further about what could've inspired Harvard students, and my answer found itself east, towards Germany. In 1919, Walter Gropius, founder of Bauhaus University Weimar (Bauhaus-Universität Weimar), attempted to create housing to solve Germany's housing crisis. When browsing his works, I viewed a piece he created with Alfred Arndt in 1926: an artwork[4] that looks extremely similar to the streets of American suburbia today, although Germany is not typically credited with designing them. Gropius was commissioned in 1937 to Harvard University to design Harvard's Graduate Center, but perhaps assets besides his creation of this building could have inspired students. He later became a Professor of Architecture at the GSD, where he taught until 1952. It may be a stretch on my end to assume that these designers knew each other, but at the very least, their impacts on suburbia in North America are undeniable.

Looking back at Canada, I'll begin by examining their suburban issues. Canadian suburban growth is pretty stagnant, with 66% of Canadians living in suburbs in 2021 but 67.5% in 2016, with most of this population residing in what is regarded as "automobile suburbs" over

"transit suburbs".[5] Canada has said to have been extensively focusing on their suburban areas to the point where they've been neglecting their rural and urban areas. Especially due to climate change's impacts on Canada, a third of their core city infrastructure is of poor quality, and their infrastructure deficit is over $150 billion.[6] Their suburbs don't seem to be in the best condition, either. With pollution, an insufficient budget for the level of suburban sprawl they'd like to acquire, and climate change that inherently harms their urban infrastructure, Canadian suburbia is far from perfect.

Still, it has its quirks that the United States generally lacks. The fact that they have transit suburbs breaks apart their geography in a completely different manner than the United States to be more accessible to the larger population. Vancouver has become one of the most sustainable cities in the world, with Smart Growth policies that prevent suburban sprawl with mass transit, mixed-use development, and green building standards. In July 2010, Vancouver's city council approved the Green Buildings Policy for Rezoning: a policy that embodies several building plans like the Climate Change Adaptation Strategy and the Embodied Carbon Strategy that expand citizens' awareness of climate change, allocate efforts for vibrant biodiversity, and reduce Vancouver's carbon footprint. I know I just mentioned that climate change is harming Canadian infrastructure, but it's not entirely fair to blame them for this issue. Canada experiences climate change at a much faster rate than the majority of the United States, so of course their infrastructure will be damaged faster. What's important is their ability to address these issues, which is already apparent in cities like Vancouver. What the United

States should recreate is this very action of sustainability and accessibility, even at a gradual level. Both China and Canada have addressed it so far, so why can't we?

Japan

The conversation in Japan is slightly different, especially considering what their population prioritizes in terms of housing. In the 1920s, Den-en-chōfu was developed by industrialist Eiichi Shibusawa and was one of Japan's first suburban locations, modeled off of European "garden cities". Its establishment wasn't what drove suburban development, however. Japan's suburban development was encouraged for the same reason as the United States and Canada: to provide citizens with secure housing post-World War II. A few years after Japan's surrender, Japan passed a couple of key housing laws that would in hopes make up for the millions of units they lacked for citizens, including the Public Housing Act of 1951 which allowed for subsidized housing for about every 8 of 10 Japanese citizens. Suburban growth, for a while, was a part of the "Japanese Dream", but recently that narrative has changed to instead include apartments in urban areas.

Why? Well, the answer lies in both policy and culture. Japan has the highest aging percentage out of the developed nations, with the elderly making up over a fourth of their population. Because the Japanese Dream used to be more recognized by older generations, those who settled in the suburbs began to leave vacant housing and later, majorly vacant suburbs.[7] With a lack of welfare for many, especially in less dense suburban and rural areas, many elder citizens experience what

is known as *kodokushi*, or "lonely deaths" as they live alone in these settlements, days going by before a community member would notice their absence. Housing adaptations as well as accessibility for senior citizens are simply not at the level it needs to be, with a shortage of community.

Demolishing suburban structures may become more and more common in Japan if a lack of suburban influx continues to create 'ghost towns' throughout the nation. While renting and buying older housing structures is common in the United States, Japanese housing depreciates over time so these same structures are considered worthless 20-30 years after a resident moves out, even if entirely functional.[8] If newer populations prefer the suburbs and few houses are built in suburbs now because of a decrease in demand, then how are suburbs meant to survive? Japan has maybe the most unique issue in suburban living because purchasing property is not considered an investment.

Even though their suburban properties are technically degrading in value, they do have some major benefits to consider in terms of their sustainability and their accessibility. Especially compared to American suburbs, Japanese suburbs are notably dense and encourage commuters with public transit like their infamous train system with some of the busiest stations and extensive pathways in the world. Public transit pays off as Japanese cities have air pollution rates vastly lower than that of cities of similar size. The reason for this is their lack of a need for cars, or maybe a lack of interest. Public transit is sufficient enough in suburban areas for citizens to get to their desired destinations, over a third of Japanese streets cannot even fit cars, and the cost of maintaining

cars is extremely expensive. Gas is taxed so citizens pay $6.00 a gallon, there are tolls on most highways, and 9 out of 10 streets don't even have parking capability.[9] While I don't think it's a good idea to immediately shoot up the prices of owning a car just so walkability and transport are encouraged in the States, making public transit more affordable and attentive would encourage some similar benefits.

I find it hard to compare and contrast Japanese and American suburbs because they are so fundamentally different. While the United States utilizes Euclidean zoning, Japan is slightly more lax about how they divide zoning purposes so it's instead mostly purposed to serve general health and economic issues. Car usage is not as preferred. Suburban populations are declining. Accessibility for the elderly isn't usually guaranteed. My favorite factor of Japanese suburbs is their walkability and ease of public transport, but it's almost impossible for the United States to convert to such a system. Mixed-use zoning and some form of greater public transportation would be wonderful, even at a smaller scale than in Japan.

The United Kingdom

Going full circle, I'll finish the conversation about the United Kingdom. While I mentioned that Milton Keynes and the following developments post World War II were inspired by the United States, the UK had its ideas of suburban development prior. The concept of a "garden city" which inspired Japan when creating its first suburb, was arguably the true origin of a modern suburban model, although not exactly like the conventional American suburb you would see nowadays.

The English designer, Ebenezer Howard, wanted to create an area that avoided the drawbacks of towns and countries: towns being costly, avoidant of nature, and possessing an "army of unemployed", countrysides having a lack of society, lack of amusement, and a need for reform. This "town-country" would be ideally cheaper with good amenities, making it an attractive magnet to the people. These ideals were championed in his "Three Magnets" diagram shown in Figure 1. These ideas were impactful as a notable urban designer and in the first garden city he created as a London suburb, named 'Letchwork'. This sparked a garden city movement throughout the United Kingdom as well as greater Europe. After World War II, the UK revisited these ideas in their New Towns Act of 1946, beginning to expand the concept of a "town-country", or at least their version of a suburban planned community. Like how all squares are rectangles but not all rectangles are squares, I'd categorize a garden city as a specific type of suburb. The characteristics that differ most from other suburban developments include the fact that they are meant to be completely self-sufficient, necessitate greenbelts, and often contain radial layouts and a lot of transportation. Transportation in suburban locations is something the United States truly lacks, even though its installment would provide its communities the accessibility and quality of life that they deserve.

It might be more understandable to compare the suburban United States to Milton Keynes because it's seen as more conventional than a typical garden city. Bus, rail, and walkable shared-use paths known as Redways are spread throughout the establishment, so accessibility is already more guaranteed. Still, Milton Keynes and other British suburbs

have their downsides. Because of roadways and railways that can allot for both rail and private vehicles, traffic congestion is heavily likely. As I mentioned earlier, some suburbs in the UK are self-sufficient, meaning ample job opportunities are available in the suburbs. This doesn't mean that every worker in these jobs lives in the suburbs, though. In-commuters create clogged streets and pollution that can be unfavorable to the suburb's air quality. American suburbs can majorly direct a lot of these downsides into city life as there are fewer job opportunities available in suburban areas, but the UK plans its suburbs a lot differently. With green space decreasing and gentrification prevalent as the cost of suburban life continues to go up, the United Kingdom seems to face many of the same issues as the United States.

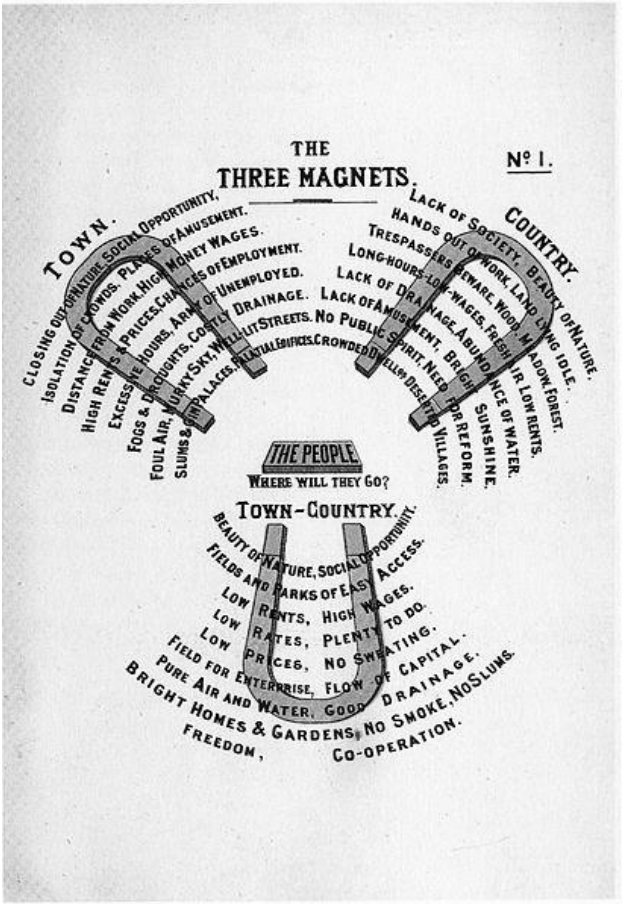

Figure 1. Ebenezer Howard, To-Morrow: *A Peaceful Path to Real Reform* (United Kingdom: Swan Sonnenschein & Co., 1898), Diagram No 1.[10]

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VI

What Can We Do?

The answer to 'What Can We Do?" largely weighs on what we as bystanders and the United States as a whole are willing to do to fight poverty. Some solutions to shift how we progress with poverty can be categorized as actionable steps that individuals and communities can enforce on their own, while others include larger monetary or sustainable support that state or federal administration must facilitate.

Let's go over the latter, first.

For years, the United States has poured trillions into funding social security networks and providing annual aid. The issue isn't always that the US is not putting enough money into these platforms but maybe that it's spreading out the amount of money it is pouring in too widely to have a net benefit. For someone to be able to begin contributing to the economy and thus making their community richer, they must have some kind of stability to even start it up. You cannot hand a homeless person $2500 each year and expect them to be able to stay out of poverty because you simply paid for a few months of rent. The remaining money will be spent to try and make themselves comfortable, only to be faced with rising housing prices and costs of goods. To prove this, I decided to try out a digital simulation of an impoverished suburb.

My idea was to use Agent-Based Modeling to find overarching patterns about how aid can benefit a population. Agent-based modeling

can be used for a wide range of topics from Artificial Intelligence to Cellular Automata, but I found it fascinating for its ability to demonstrate clear correlations between variables for an unlimited amount of characters. "Agents" in this case, are some type of representation of people, animals, or general parts of life. Using NetLogo[1], a popular open-source Agent-Based Modeling software, I created a poverty simulation based on a set percentage of an impoverished population's income to determine a general pattern of how aid can benefit one's life. It did not take inflation into account and probably isn't the most accurate regarding how much money will be needed to "solve poverty", but the proven patterns regarding my initial hypothesis were still demonstrated.

Here are some of the basic elements I included:

1. A standard ratio between impoverished and wealthy people. Apologetically, I did not make a clear distinction between high-income and middle-income people. This may be of concern when regarding this model because there are plenty of middle-income people in the US who are likely to fall into poverty over a set amount of years. My model somewhat simplifies this and initially sticks to the average percentage of poor throughout American suburbs which is 9.6%. Out of 1000 people in this simulation, 96 are impoverished and 904 are wealthy.

2. An attempt at viewing poverty from multifaceted perspectives. As mentioned in Chapter 2, my opinion is that the poverty rate that the US uses is either inflated or deflated because it truly does not account for

other resources and the accessibility of goods in suburban locations. 9.6% is likely far from the actual value of properly measured impoverished citizens, but because its measurement is still technically subjective, I will turn a blind eye.

3. Inflation & debt are two important factors that should be considered heavily when allowing someone to bridge the gap over poverty. Still, the model does not necessarily represent them fully because it is made to measure the most efficient way to solve a high amount of poverty in a matter of under 5 years.

I will repeat that Agent-Based Modeling should not be used for heavy accuracy but instead for considering patterns about how aid should be distributed. The simulation I created allows a user to adjust the "rate of aid" for their income and necessities, but this is its general equation:

$$A = (50000 - I) \times (A_p / 100)$$

Where

I = Initial individual income

and

A = Aid amount in USD

and

A_p

= Percentage of aid (independent variable).

Using what the United States defines as poverty (an annual income of less than $25,000), I added the aid amount to each impoverished individual in the simulation and then used weighted fractions to use about half of it for healthcare, education, and basic needs. Healthcare had a coefficient of 0.25, education 0.25, and basic needs 0.6, but this can be easily adjusted as well as the income depending on the community.

To be considered “out of poverty” for this simulation’s purpose, individuals must have an annual income of more than 25,000 OR spend more than 3000 on healthcare and basic needs. I didn’t use education for this because spending on education isn’t something that sustains an individual but it can allow for better opportunity with ensured aid.

This is the simulation’s interface:

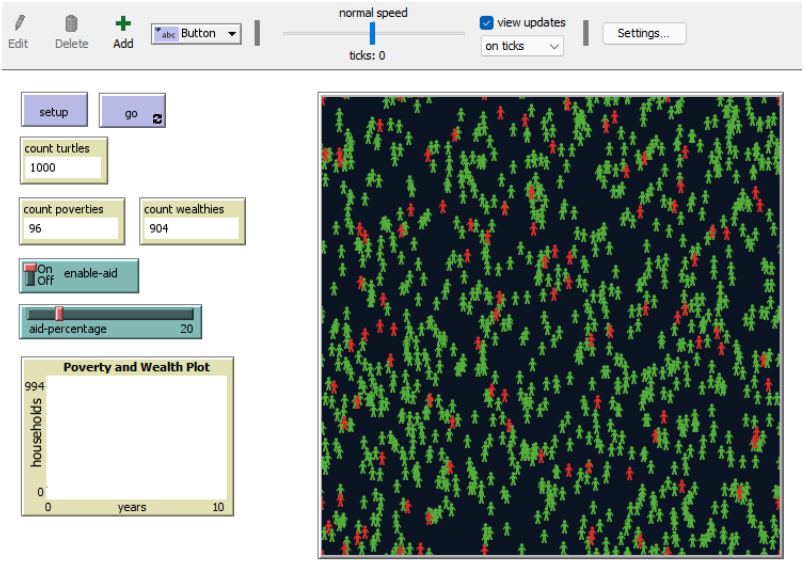

Figure 1. Created NetLogo simulation interface (refer to endnote 1 for source details).

The red or darker color above represents the amount of households initially in poverty while the green or lighter color represents everyone else. After adjusting the aid percentage a few times and approximating the net amount necessary to spend on impoverished communities, these were my conclusions:

1. At first, I thought spending higher amounts initially would solve poverty faster and maybe more affordably because efforts wouldn't be insignificant over time. Instead, I found that it's more of a parabolic shape with certain circumstances that make the best of both affordability and years spent on a project.

2. With lower percentages of aid provided, there was a generally larger recorded amount of years or ticks necessary to solve suburban poverty. These had annual costs (generally) far less than higher percentages of aid, but this is still unpredictable because my measure does not measure inflation or changing circumstances of displacement and aspects of gentrification. As the time to set in place the aid increases, the margin of error will generally increase, too.

Simulation Graphs

I conducted 3 trials of each percentage value in the simulation and took their average amount of ticks and total cost of aid. The percentages I tested included 15%, 17%, 20%, 25%, 30%, 35%, 40%, 60%, and 80%. The precision value of the amount of aid was to the ten-thousandth place, while the precision value of the number of years/ticks was to the hundredth place.

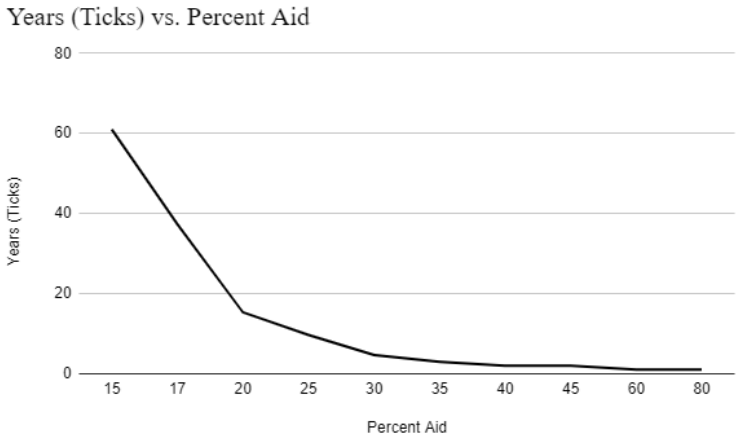

Figure 2. Line graph that plots how many years it will take to dissolve poverty in the simulation based on the percent aid given, created using Google Sheets.[2]

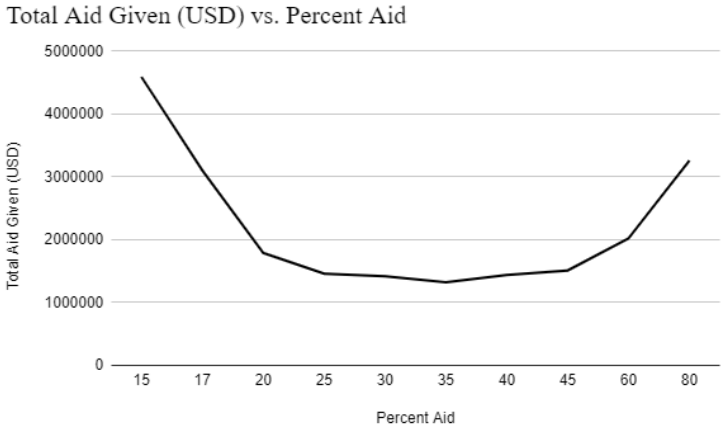

Figure 3. Line graph that plots how much simulated total aid (in USD) it takes to dissolve poverty based on the percent aid given, created using Google Sheets.[2]

Yearly Aid vs. Percent Aid shows the total cost of enforcing aid per year concerning the percentage provided.

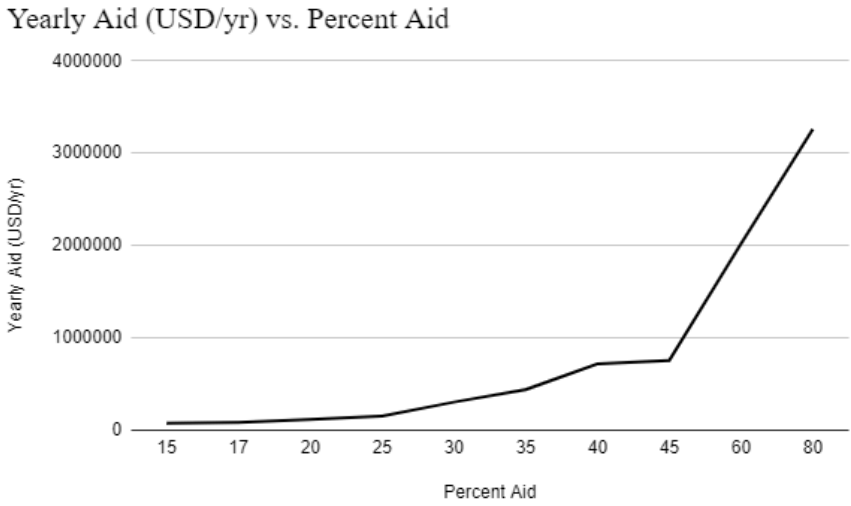

Figure 4. Line graph that plots how much simulated yearly aid (in USD per year) it takes to dissolve poverty based on the percent aid given, created using Google Sheets.[2]

3. The way I calculated percent aid might not be the most efficient, and other steps must be taken by a community to ensure that vulnerable households are provided resources beyond aid to keep them afloat and comfortable going forward. Giving a household money won't necessarily keep it out of poverty for long if it is not provided consistent aid if retired or unable to work / not provided opportunity for employment if able to work.

Other ways that the government can aid suburban populations should concentrate on different problematic issues like displacement and

accessibility, as I mentioned in previous chapters. To give summaries and necessary attention to these issues in closing, I may repeat some aforementioned solutions.

Accessibility & Walkability

Federal action can subsidize and allow for the development of accessible community spaces to begin with, so the other aid modeled in the simulation that nears millions of dollars for 100 people will be less costly to foster as costs of maintaining infrastructure would largely decrease while embracing walkable spaces would promote communal well being. This could be enacted by funding and expanding existing programs like the Low-Income Housing Tax Credits (LIHTC) and the New Markets Tax Credit (NMTC) exclusively for the development of mixed-use spaces or by enacting general zoning incentives for developers. Simply ensuring or mandating a set number of green spaces and local services in every few square miles (or adequate and affordable delivery services, at the very least) can encourage a betterment in quality of life. Because programs like LIHTC tend to be unpopular for mixed development by financial developers, local fundraising and city grants must work hand in hand for this solution to be effective.

In Atlanta, Georgia, a grassroots organization created by Ryan Gravel conducted a notable partnership with the larger city to create the 'Atlanta BeltLine' in 2006: 22 miles of trails between neighborhoods to allow for an improvement in mixed-use development.[3] Affordable housing, walkability, and transit are all able to be guaranteed for public

health in development, so programs like it show the succession of what governmental action, local or federal, can do with local organizers.

Gentrification and Displacement

To prevent displacement that can regularly occur, allowing for the stabilization of rent, lighter taxes, Community Land Trusts (CLTs), and inclusionary zoning can be attempted with proper attention to detail to better their surroundings. CLTs - where land is bought by a non-profit with a largely stagnant price - may be unfavorable as an investment and in a few years may be volatile to the former homeowner because its value has remained the same while the surrounding market may have inflated further. For a temporary solution against current gentrification, it may be a good idea to enact. Inclusionary zoning, where developers are incentivized to provide a certain percentage of affordable housing, is uniquely powerful only if developers are collaborative and understanding of the circumstances of who is considered “low-income”, as their definitions are often very restrictive.

Vibrant Community

Though walkability may play a part in creating a vibrant communal culture, certain establishments must be funded and allocated as important additions. Cultural centers, public art installations, and parklands that foster interaction for those of all ages and backgrounds can provide necessary representation and measures for advocacy.

Sustainability

Sustainability is something I, unfortunately, haven't addressed in grand detail because a majority of suburbia's sustainable issues result from car culture and its prevalence. Mixed-use development, expansion of public transport, and the allocation of green spaces can greatly help its premises, but otherwise, oversight can be enacted by green infrastructure or projects like suburban forestry. Suburban forestry can contribute to a reduction of the Urban Heat Island (UHI)[4] effect discussed in the first chapter, as well as generally improved public health and accommodations for sustainable living.[5]

For community-based initiatives, mutual aid and public works should be more frequent to guarantee a community livelihood and a better quality of life. To bring out the vibrance that suburbs deserve, art installments can provide both career opportunities and an eternal spirit that can aid in curing tensions in historically divided groups of people.

In Grays Ferry, an urban neighborhood in Pennsylvania, racial division has plagued what its community previously emulated. On July 26th of 1918, a Black woman named Adella Bond worriedly pulled a gun's trigger to the sky and released the trigger to one of the worst racial riots that the state has ever known. Soon enough, a 4-year war elapsed and highlighted how easily tension can concur. In 1997, decades after the initial incidents, artists Jane Golden Heriza and Peter Pagast created a large mural known as the "Peace Wall" which attempted to ease some elements of racial tension in the surrounding neighborhood. This is an urban example, but the solution is still evident. Art brings people together and can tear apart the bonds of possibility that we seem to hold ourselves in, in terms of public policy and placemaking. Murals can be a

point of tourism and a necessary acknowledgment of the diversity that exists in certain areas in past and present periods.[6] It encourages a scope of regular renovation and a pathway for a community to converse not only about the piece itself but also the connotations it holds for their community and the future action that can be taken by it. To name a few, murals can be inspired by race relations, Native American heritage, renowned cultural elements, local wildlife, unique local characteristics, and historical retellings that played a role in a suburb's development.

Community gardens were another initiative I briefly addressed for community spirit and access to produce. Not only are they relatively easy to start (at around $5,000[7]) and contain the just mentioned benefits, but they additionally allow for better psychological circumstances for those in its construction and can offer modes of education about nutrition and benefit to one's general diet.[8] Developing programs of care and allowing fellow residents to feel as though they have a choice of health, even at a lower cost, can be encouraging and can provide communal support and connection for those in need. Fundraising, pitching in local donations, and allotting for annual support can allow citizens direct involvement in efforts to alleviate poverty.

To illustrate the differences, I conducted a quick analysis of how many pounds of food would be able to be donated from these community initiatives. From a smaller 500 square feet garden, I marginally increased sizes by an additional 500 square feet margins up to 3000 square feet. Crop yields differ depending on the garden and its regular care, but to conduct a somewhat linear analysis I began with 20% thresholds of 500 square feet (a random number between 400 and 600), and in the

following sizes their values were a randomly generated number between the previous size's value and 1.2 times their own. Assuming a community contributes about half of its proceeds to local impoverished citizens, this trend is produced **(Note that the produce made and donation amount is *annual*)**:

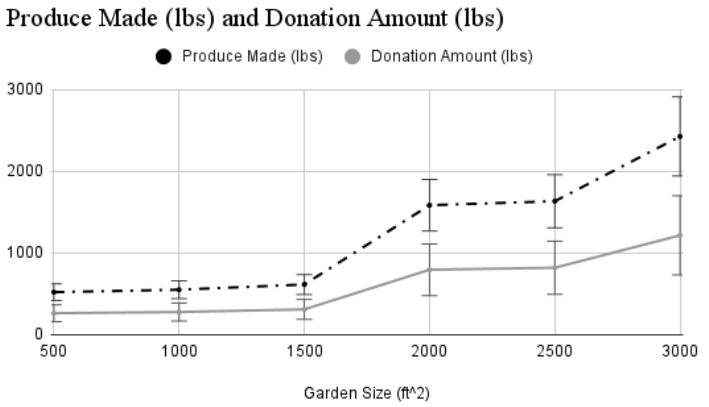

Figure 5. Line graph depicting estimated Produce Made (lbs) and Donation Amount (lbs) VS Garden Size (ft^2), created using Google Sheets.[2]

Error bars are also provided in 20% intervals as this is not something that will be completely accurate for many suburban communities. States like Alaska and South Dakota with either unstable climates or infertile soil will produce fewer crops on average than, say, California or Florida. No matter the state, though, community gardens can provide immense benefactors for both the impoverished as well as involved citizens.

Reaching out to local organizations, secondary schools that require community service projects, or even local/state governance can build highly beneficial services all from community efforts.

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Closing

It's easy to simply state all the solutions that can completely change suburban circumstances for the better without foreseeable action, and I realize that all hopes will not come true concerning these issues. It is unrealistic to expect the United States to mitigate its car-dependent culture or enact policies for transportation and infrastructure that will cost millions of dollars because it is not seen as "worth it" or sufficient for the temporary. For the abolishment of poverty, for the reversal of climate change, and for the ridding of discrimination, common citizens must act like they are their own policymakers.

Whether it be through your own community service or advocacy work, I hope that you will consider contributing to the suburban cause because these issues require grand cooperation.

Thank you for reading!

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