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Analyzing the Impact of Suburban Design Through a Comparison of Its Effects on the United States and France

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ABSTRACT

Suburban design shapes the way that people live and function globally on a daily basis. Despite its importance, people rarely consider the design choices around them and their impact. Recently, suburban sprawl has become omnipresent as the planning style has spread throughout rural landscapes and exurban areas. Through an analysis of suburban design, this paper scrutinizes suburban sprawl by considering its effect on the economy, environment, societal wellness, and social injustices in the United States and France. Overall, this research finds that suburban sprawl leads to an auto-centric and socially polarizing society, which negatively affects national well-being. This paper concludes by proposing possible solutions to suburban sprawl aimed at diversifying future building projects and limiting the nation's reliance on automobiles.

INTRODUCTION

Throughout the United States and Europe, citizens' lives are shaped by the design choices of the neighborhoods in which they live. Although people often criticize these choices, they rarely question their origin. From the placement of utilities and roads to the design of the house, people seldom account for the significance of communal design choices. Regardless, 20th-century design decisions continue to play a crucial role in 21st-century life in America and Europe as people continue to live in spaces designed decades before their modern use. As a result, past design choices remain prevalent as people must adapt to what has already been constructed. Specifically, these decisions greatly affect the economies, health, civic engagement, environmental health, and level of civil unrest in these countries. By exploring the differences in the design choices of American and French neighborhoods, this paper aims to explore how suburban architecture shapes European and American life.

In the United States, modern American city design can be traced back to colonial life and the desire for organization during the 17th and 18th centuries (Wilson, 2018). With little structure and endless empty land, early colonists used a grid system to easily organize their large populations. This goal popularized the grid system as it created a simple and efficient organization of vast spaces of land (Wilson, 2018). Ultimately, this system was used nationwide as it was simple and provided for the people's needs at that time. With nationwide grid systems in America's earliest cities, a framework was established for town and city planning throughout American history. Today, as many of these first cities continue their growth from these periods, their grid system is still extant and continues to play a major role in American life.

Modern American suburbs, on the other hand, are heavily influenced by design choices made following World War 2, specifically, Will Levitt's planning model. As soldiers returned from war,

there was an urgent need for cheap housing to sustain the lives of these soldiers and their families (Browner 2013). To supplement the lack of housing, the United States government turned to increased urbanization along with the vast expansion of the suburban landscape. The increase in urban living (defined as the amount of people who live in areas with more than 5000 people) is outlined by data from the Census Bureau: only slightly more than 5 percent of the U.S. population lived in urban areas in 1790, 15 percent by 1850, 50 percent by 1920, and 79 percent by 2000 (Nechyba, Walsh 2004).

Although urban expansion was vast throughout the United States following World War 2, it was expected given the rise in population. With suburban communities undeveloped, people were forced to pack into major cities and other urban areas where the infrastructure was already built and the jobs were already present. However, the nation still faced a lack of housing and turned to new suburban development plans to fill this void. As a result, the more significant design choice made in the wake of World War 2 was the suburban development model created by William Levvitt and his family. Facing a critical housing shortage, Levvitt and his family mass-produced thousands of standardized, cheap houses to sell to the American people. Although they successfully provided housing for the people, Levitt's houses were poorly built and almost identical to each other, limiting variation (Browner 2013). These houses, which would be placed in rows beside each other, shaped the design of many modern American suburbs. These suburbs were lacking in surrounding infrastructure because of the costs associated with building that infrastructure and the desire for quick housing. Public transportation and walkable access to businesses and jobs were also neglected as public transportation was expensive, and many businesses were already established in locations far from suburban areas. Levitt's design choices shaped the creation of neighborhoods throughout the United States despite their flaws; their influence now plagues the United States with many community problems today.

Similarly, France experienced great reform and change following World War 2 that vastly modified the lives of French citizens. With many key French cities in ruins following the war, France was forced to enact substantial housing and rehabilitation plans. In this public housing plan, France created what is today known as the "Banlieues" or suburbs of French life. Similar to Levitt-style homes, the homes that occupied these new Banlieues were poorly built and created with unprecedented speed (Carpenter 2019). While originally, these suburbs were crucial to maintaining a scattered population diminished by the war, their creation had other implications for the future of French life. For example, in Paris and many other big cities, long-standing poor communities were pushed out of their homes and forced to live in these new suburbs to accommodate the desires of wealthy citizens. The inner city appealed greatly to rich people who desired the "...ready access to various cultural amenities and social opportunities" (Onur n.d.). By pricing out poor residents, a precedent was created, putting low-income residents in suburbs far from crucial utilities and jobs, a trend that still accompanies French life today. While World War 2 forced the French government to create suburban living spaces like it did in the United States, modern supporting infrastructure has been better incorporated into French suburban living. This feature of design has contributed to maintaining a more stable society in France, one that is not as affected by the poor design of its suburbs. Both the United States and France had similar experiences with suburban housing development following World War 2. These experiences in both cases led to an increase in similar suburbanization, a

vast number of cheap, poorly built houses, and neighborhoods that allow all people to have their own living space.

AFFECTS

Impacts on Citizen Health

As a direct result of suburban sprawl, American citizens live sedentary lives that lead to higher rates of obesity, diabetes, and other life-threatening diseases. American citizens' lack of exercise is directly correlated to the design of the neighborhoods in which they live (Frank et al., 2004). The modern American lifestyle forces people to travel far distances to reach their workplace, which is usually inaccessible without a car. Similarly, most American citizens cannot reach vital businesses without using a car, regardless of whether they need a carton of milk or a visit to the doctor. There is a direct correlation between the amount that a person walks in a day, on average, and the obesity rates for that group of people (Frank et al., 2004). Similarly, the amount of time that a person spent in a car was a strong indicator of obesity rates overall. These relationships are concerning when, on average, Americans spend at least one hour in their cars daily (Steinbach, Tafft 2023). Neighborhood design is directly correlated to these shortcomings, as demolished pathways, distant establishments, and limited park access characterize American neighborhoods (Suglia et al., 2016). All of these are aspects of American neighborhoods that enforce an auto-centric, unhealthy lifestyle.

American neighborhoods' emphasis on auto-centrism also leads to greater risks of emissions-related fatalities and respiratory diseases. American lives are spent driving, evidenced by the fact that about 28 percent of CO2 emissions in the United States are produced through transportation from vehicles (EPA, *Carbon Pollution from Transportation*). Through a mix of this pollution from automobiles and other air pollutants such as that of factories, a hole has been created in the stratospheric ozone layer, which protects humans from the sun's UV rays (EPA, *Ground-level Ozone Basics)*. Ultimately, this hole allows for an excess of UV rays to reach the earth's surface, contributing to high rates of skin cancer and other melanomas (EPA, *Health and Environmental Effects of Ozone Layer Depletion)*. At the same time, increased levels of pollution create tropospheric ozone through a chemical reaction with sunlight (EPA, *Ground-level Ozone Basics)*. This ozone, which is considered harmful, negatively affects the respiratory health of American citizens and might have been prevented if America had not turned into such an auto-centric society. Another negative effect of this pollution is the harmful, fine particulate matter that is released into the air that citizens breathe. Inhaling particulates can cause severe respiratory diseases. According to a research study done by Patti Miller on data from 2010, "Analyses of the contributions of various sectors to air pollution show that approximately 53,000 PM2.5-related and 5,300 ozone-related early deaths every year are attributable to road transportation" (Miller, 2018). These statistics show that the design of American neighborhoods is directly correlated with respiratory illnesses and is mitigated through the implementation of walkable neighborhoods and cities.

Autocentric societies like America also face additional driving in automobiles. Nearly 40,000 Americans die in car accidents every year because of a number of risk factors, such as distracted driving and speeding (Wein, 2020). To put that in perspective, 13.8 people die per 100,000 people in motor-vehicle accidents (National Safety Council, n.d.). Beyond the dangers that Americans face as drivers, they spend a significant portion of their day driving, especially to work. Research has found that Americans spend an average of 27 minutes per day commuting

to work one way, occupying a substantial portion of everyday life (United States Census Bureau, 2024). American city design enforces and promotes long periods of driving and the constant use of an automobile. As a result of the design of suburban sprawl and neighborhoods throughout the United States, American health and wellness are negatively affected.

In France, suburban sprawl poses similar health challenges for people and the nation. Despite similar developments in urban design, a recent study found that France has only a 21.6% obesity rate (Fontbone et al., 2023), which is significantly lower than that of the United States. When compared to the United States, there are a number of factors that contribute to obesity rate and overall health, but there are consistent trends in suburban design between both societies. For example, in France's urban Île-de-France region, which includes Paris, obesity rates are, on average, several percent lower than the surrounding suburban regions (Fontbone et al., 2023). This difference, which is replicated in American society, depicts the problem associated with current suburban design and national health. Residents in Paris and in other cities that are on the periphery of Paris do not need to use their cars as much because of their proximity to their work and other services. Meanwhile, further suburban regions face high obesity rates that are consistent with longer times in their cars.

Despite the idea that the French suburban model is superior to that of the United States, data shows that it still greatly negatively affects French citizens. France's compact suburban design is inconsequential in commuting times as French citizens still, on average, have a 26-minute commuting time (Yanatama, 2024). These commuting times correlate with emissions rates, as 30% of France's CO2 emissions are a direct result of transportation, including 15% from personal vehicles and travel (Proutat, 2023). The impact of long commuting times and high vehicle-related emissions rates directly impacts the health of French citizens. A 2007 study showed that 9% of French citizens die from PM2.5 yearly, which is roughly 48,000 deaths a year (Pascal et al., 2016). This proves that French emissions are negatively impacting citizens as they continue to die from particle-related emissions. Car-related dangers extend further than just emissions, however. In France, 5 people die per 100,000 inhabitants in motor vehicle accidents (French Government, 2024), a statistic that is much lower than the value of 13.8 in the United States. This statistic is promising for French citizens as stricter speed limits, more roundabouts, and more public transport have led to safer driving throughout France. Overall, suburban expansion leads to the prevalence of auto-centric societies that negatively affect citizens' health. Suburban sprawl and the prevailing suburban model directly account for greater rates of obesity, C02 and PM2.5 emissions, and vehicle-related deaths.

Economic Impacts

In the United States, the spread-out suburban sprawl imposes additional costs on the nation given the additional land needs. Consequently, in most American suburbs, utilities, services, and various other crucial aspects of neighborhoods, like roads and plumbing, are spread across vast land areas. These dispersed aspects of American communities are more expensive to build and more expensive to maintain (Litman, 2015). In a recent study conducted about the impact of suburban sprawl, "the London School of Economics Cities project and the Victoria Transport Policy Institute, individuals and cities in the US pay $1 trillion to $1.1 trillion in additional infrastructure, public works, driving, and health costs as a result of these massive metro areas" (Badger, 2015). In a nation with a GDP of around 27 trillion dollars, a 1 trillion dollar difference

represents a major impact on society. While these losses are staggering, the nation would be able to recover if the suburbs directly correlated with availability to jobs- which they don't.

Suburban sprawl makes life especially difficult for poor households who can't mitigate risks from sprawl's downsides. In some situations, poor citizens are unable to afford a car to reach their workplace. However, suburban sprawl enforces an auto-centric society, making life without a car impossible to sustain (Litman, 2015). Citizens who are forced into this auto-centric style of living must pay extra for monthly gas and car maintenance. These extra expenses are especially staggering when compared to the price of cheap public transport, walking, or other forms of transportation. Additionally, suburban sprawl increases food costs for all Americans by reducing the space available for farming (Litman, 2015). These additional costs directly impact impoverished people who may have been struggling with costs in the first place.

However, the economic impact of current suburban design is not completely grim. In a study conducted by Airgood-Obrycki, she found that prewar suburbs (those created by Levitt) were plagued with problems and dysfunction (Airgood-Obrycki, 2019). On the other hand, that was not necessarily the case for those created with more modern design choices (Airgood-Obrycki, 2019). In fact, "Airgood-Obrycki finds that suburban neighborhoods overwhelmingly outperformed their urban counterparts during the four-decade period spanning 1970 to 2010. Indeed, suburbs *increased* their economic advantage over urban areas during this time frame" (Florida, 2019). These modern suburbs have been characterized by better access to urban landscapes and have used modern design tactics such as mixed-use development to support themselves at higher rates than post-war suburbs. Additionally, these modern suburbs feature closer proximity to businesses and necessities, allowing for less reliance on automobiles. With this information in mind, these statistics are promising as they prove that with the right design, suburban expansion can have a positive effect on the economy. Additionally, the suburbs support families that have just started to establish themselves. Suburban expansion leads to cheap land and housing, allowing various types of families to have their own plot of land - something they would not have in the city.

France experiences similar economic effects of suburban sprawl and aligns with American models in multiple economic categories. For example, a French study that compared land prices of suburban and urban regions continued to show that suburban areas featured cheaper land (*Cahiers ESPI2R*. n.d.). Additionally, American models were used to represent the cost of expansion under suburban sprawl, proving a similarity between the situations of both nations. Overall, current suburban design choices force average citizens and the nation to lose money as they attempt to pay for an increase in utilities and roads. However, there is promise for modern suburban design and the future of suburban expansion as modern suburban models have led to an increase in economic advantage and an overall benefit for the nation.

Environmental Impacts

The creation of vast suburban projects and neighborhoods around the periphery of city centers in the United States has led people to be separated, by car, from many of the goods and services they need. Additionally, developers are forced to sacrifice vast portions of land to accommodate neighborhoods that have separate houses and follow the idea of a "white picket" fence lifestyle. As a result, the government is forced to connect these suburban landscapes with vast highway

and roadway projects. Although these projects successfully connect the inner United States, they worsen the environment due to the reliance on cars.

Modern American suburbs have little to no public transportation and force their citizens to use cars to reach all of their destinations, increasing pollution and negatively affecting the environment. As written by Justin Chan, "With cars and trucks accounting for almost a fifth of all U.S. emissions and household energy consumption accounting for about 20%, suburban growth becomes wildly inefficient and unsustainable, significantly contributing to transportation and household energy consumption" (Chan, 2023). This phenomenon compounds the negative habits that suburbs develop, such as the use of unnecessary spaces for the excess of the home buyer and the reliance on automobiles. As a result of car reliance and the use of a great amount of space, "In metropolitan regions, suburbs emit up to four times the household emissions of their urban cores" (Tamura and Kane, 2023). As suburban expansion continues, these statistics suggest that continued suburban planning under the current status quo is unsustainable for the country as pollution levels continue to increase. Another key tenant of suburban expansion under Levitt's plan was the demolition of forests and wildlife for the creation of road networks and neighborhoods with large backyards and wildlife. These decisions destroy the natural habitats of many of the nation's species solely to accommodate the suburban standard that much of America follows.

France has experienced similar negative effects from communities designed after World War 2 and the suburbanization accompanying them. Since France does not have as much land overall compared to the United States, it is directly affected by urban sprawl. Additionally, it does not have as much land mass to spare for wasted suburban expansion. As Jean-Mare Jankovic writes, "We see above that a prolongation of the present growth rate means that mainland France has been turned to a single city in 160 years" (Jancovici, 2004). Although this situation is unlikely to become a reality, it puts the effect of suburban sprawl into perspective. The system set in place following World War 2 continues to be used today and now occupies such a great landmass that it might not be sustainable for France. Land is continuously used to account for suburban housing at the clear expense of the environment. While land usage does not directly correlate to negative environmental impacts, several other statistics describe the environmental crisis that suburbanization has wrought. In France, global warming is increasing 30% faster than the average warming throughout the globe, and the temperature in France has risen by 0.2 Celsius more than in other regions (Brinke, n.d.). These increases highlight the problem with the design of French neighborhoods and suburbs. When paired with housing increases, population increases demolish natural landscapes in favor of suburban ones. These suburban neighborhoods, which were designed following World War 2, are detrimental to the environments of the countries in which they occur.

Social Injustices

Suburban expansion in the United States has allowed for and promoted racial segregation, leading to redlining, gentrification, and injustice. As written by Margery Turner, "A typical white person lives in a neighborhood that is 75 percent white and only 8 percent African American, whereas a typical African American person lives in a neighborhood that is only 35 percent white and 45 percent African American" (Turner, Greene, n.d.). While these statistics may not mean much to the average reader, the implications that accompany them directly create social injustice. Beginning around the period of Will Levitt's suburban model, the government began

segregating different types of people into different housing plans. While white citizens took advantage of federal lending programs, black citizens were forced into older homes in central cities that they could not afford (Massey, Tannen, 2017). Racially restrictive suburban covenants enforced this separation, as African Americans were unable to purchase homes as a result of government intervention. This deliberate separation of people by race directly led to redlining, a practice that identified regions of cities by "riskiness" for investing and mortgage lending. Through redlining, the Federal Housing Administration was able to provide homes and mortgages to specifically white families, leaving African American citizens in disproportionally worse living conditions (Leacock, 2019). In other words, American suburbs were designed for white Americans and, at this time, were only made up of white Americans. The design of the suburban model by the American government forced African Americans into lives of poverty and struggle as they grappled to adapt to modern American life.

Following the segregation of citizens into communities by race came destructive suburban building and development practices, which were also intended to harm minority communities throughout the United States. The enactment of the Federal Aid Highway Act of 1956 directly perpetuated segregation. As a result of the creation of majority white suburban neighborhoods, vast highway systems had to be created to connect these neighborhoods to the jobs in urban centers. Designers used this aspect of suburban design as a tool and deliberately placed these highways in the middle of known African American communities to demolish their communities and force them to scramble to find alternative places to live. Officials in New Orleans, Baltimore, Atlanta, and New York all partook in this practice, "damaging every aspect of Black lives—cultural, economic, environmental, educational—for generations" (Fernandez, 2024). As a result of previous segregational practices, it was easy for government officials to cut through the communities of minority populations to support suburban living. This practice was in conjunction with already providing lower funding for these regions, pushing black Americans to struggle to sustain themselves.

Today, discriminatory economic practices have led to unequal access to vital resources, such as quality schools and hospitals for marginalized communities throughout the United States. As suburban sprawl continues to ensue, historically, minority communities receive lower funding for these essential services, lowering their living standards. Historically, black suburban neighborhoods are valued at lower rates when compared to white neighborhoods. A recent study found that as a nation, there is a 156-billion-dollar loss stemming from housing evaluations in minority communities (Loh et al., 2020). These evaluation statistics mean less wealth for minority people and less incentive for companies to build services in these areas. For example, healthcare services and schools in minority communities are historically underfunded (Loh et al., 2020). This disparity was evident as Black Americans during the COVID-19 pandemic were dying at 2.4 times the rate of white people and often failed to receive the treatment they needed (Loh et al., 2020). Similarly, in 2016, for example, Flint residents experienced inequalities as Flint residents (who are mainly African American) were continuously given harmful drinking water despite obvious signs that it was contaminated. In spite of multiple tests showing government officials knew about the toxicity of the water, people were still given the same water, a situation that many believe would have been resolved more quickly if the neighborhood was not predominantly African American (Karoub, 2021). As a whole, suburban and urban design choices have been used throughout recent American history to discriminate against minority communities and continue racist practices.

Despite a different path to social complications, modern French suburbs are characterized by racial injustice and clear discrimination as well. Throughout the 1950s and 1960s, French public housing was characterized as a model for suburban public housing and development (Tissot 2008). Not only were the people culturally diverse, but also economically and socially. This allowed for people in these "banieules," as they were known, to thrive under government protection (Tissot 2008). In the 1970s, however, the French government shifted its use of these suburban projects for primarily immigrant populations who had nowhere else to go. These populations were primarily made up of unskilled workers and other wage workers whom the French government did not care for. As a result, the French government began underfunding these suburban areas as they were seen as less important to French society (Lefebvre, n.d.). The effects of this underfunding have been detrimental to immigrant populations and all people who live in these suburban neighborhoods. Characterized as "quartiers" or low-income neighborhoods, these communities have been historically looked down upon by the people and the government.

For the citizens that live in these suburban neighborhoods, French living plans have negatively affected their well-being. Children are especially affected by the lack of funding. Statistics demonstrate that the number of day care centers is six times lower, funding for athletics is cut by a half, and the number of qualified teachers is far less (Lefebvre, n.d.). Overall healthcare in these suburban regions is also much lower as there are 40% fewer private doctors and 67% fewer specialized doctors in the region (Lefebvre, n.d.). These numbers are the direct result of lowered government funding due to racism, choices that diminish the well-being of the people in these suburban regions. French and American suburban design plans have been detrimental to the living conditions of minority communities because of racist practices.

DISCUSSION

The findings of this paper describe the impact of suburban design on multiple aspects of French and American life. Through these findings, it is clear that current and past suburban design models have multiple negative effects on life and community for citizens in these countries. Physical health is negatively affected by limited walking abilities and the prevalence of autocentric living. These problems have been shown to correlate directly to higher obesity levels in suburban areas in both America and France. While French people have fewer people dying from vehicle-related accidents every year, citizens in the United States spend hours in their cars every week as a result of poor community planning. This vehicle reliance has led to higher harmful emissions rates in both societies, killing thousands of people unnecessarily every year. Economically, suburban expansion has been detrimental for both nations. Residents in urban and rural areas are forced to "pay" for the building projects featured in suburban communities as both nations lose billions of dollars attempting to maintain the problems that large suburban neighborhoods face. Despite these staggering losses, there is some optimism in the economic impact as modern suburban neighborhoods have performed better than their older counterparts. Environmentally, suburban design has been detrimental as natural landscapes have been destroyed to accommodate suburban building projects, and emissions rates have become drastically higher through excess driving. Finally, suburban design has led to great social injustice and racism by the French and American governments through the marginalization and isolation of minority populations. While there is a misconception that European suburban design is "better" than that of the United States, current suburban designs as a whole are detrimental to many nations putting their abilities into question.

POSSIBLE SOLUTIONS

Several solutions have been proposed to stop the expansion of suburban sprawl and foster better design choices in future development. Two promising solutions are smart growth and urban growth boundaries. Smart growth is a model of mixed development that is especially popular for future suburban design projects. This model focuses on the creation of mixed land uses, walkable neighborhoods, and the preservation of open space when developing (EPA, 2025). Through the implementation of these changes in future development, many problems with suburban design can be mitigated. For example, smart growth minimizes air and water pollution and reduces overall greenhouse gas emissions through a reduction of automobile usage and an increase in walkability (EPA, 2025). Using these principles and the preservation of open space, natural environments will be better protected, and the effects of suburban design on climate change will be reduced. Within the plan of "Smart Growth", mixed-use development is crucial. A practice that has been shown to increase land values, mixed-use development fosters a society that promotes alternatives to vehicle transportation by making things more accessible and promoting involvement in closer alternatives such as small businesses (Montgomery County, 2024). Thus, engagement in small business will increase, boosting local economies and economic opportunities. Additionally, to stop the spread of suburban sprawl in its current state, urban growth boundaries are also proposed as a helpful solution. Urban growth boundaries protect natural environments by limiting urban sprawl and encouraging smart growth with mixed development. Through the use of urban growth boundaries, populations have been shown to expand without the expansion of urban areas. In Portland, Oregon, for example, the population has grown 60 percent since 1973 while only growing its urban areas by 14 percent, proving that urban growth boundaries work (Green, n.d.). While there are a number of possible solutions to the problem of urban sprawl, smart growth and urban growth boundaries are particularly intriguing as they have been proven to work in modern society. Thus, incorporating these practices in modern society would be greatly beneficial for American and French society as natural environments would be protected, and economic growth could increase.

CONCLUSION

Suburban design choices made throughout the 20th and 21st centuries have been detrimental to the United States and France. Early plans laid the blueprint for modern suburban sprawl and have continued to be used to this day. Suburban sprawl has negatively affected multiple aspects of modern life, including the environment, well-being of the people, economic state of the country, and social cohesion between the people. While the people themselves are unable to make the decisions for urban planners, citizens must advocate for sprawl reduction policies and mixed-use development for a better future.

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References

Nechyba, T. J., & Walsh, R. P. (2004). Urban Sprawl. *The Journal of Economic Perspectives*, *18*(4), 177–200. http://www.jstor.org/stable/3216798

Wilson, Crystal, M. S. U. E. (2018, October 3). *Principles and practices of urban planning: Part 1 colonial planning*. MSU Extension. https://www.canr.msu.edu/news/principles_and_practices_of_urban_planning_part_1_colonial_planning

Browner, Seth. (2013). *The Post-World War II Suburb in the United States* [Documents]. Trinity College Digital Repository; Trinity Student Scholarship. Trinity College Digital Repository. https://jstor.org/stable/community.38593817

Nechyba, T. J., & Walsh, R. P. (2004). Urban Sprawl. *The Journal of Economic Perspectives*, *18*(4), 177–200. http://www.jstor.org/stable/3216798

Carpenter, J. (2019). The French Banlieue: Renovating the Suburbs. In *The Routledge Companion to the Suburbs*. Routledge. https://radar.brookes.ac.uk/radar/file/0a668947-1e4c-4980-9839-9e6e7834292a/1/French%20banlieu%20-%202018%20-%20Carpenter.pdf

Onur, Z. (n.d.). *French banlieues and the consequences of spatial segregation*. French Banlieues and the Consequences of Spatial Segregation | Howard University COAS Centers. https://coascenters.howard.edu/french-banlieues-and-consequences-spatial-segregation

Frank, L., Andersen, M., & Schmid, T. (2004, August). *Obesity relationships with community design, physical activity, and time spent in cars - American Journal of Preventive Medicine*. American Journal of Preventive Medicine. https://www.ajpmonline.org/article/S0749-3797(04)00087-X/fulltext

Steinbach, R., & Tefft, B. C. (2023). *American driving survey: 2022* (Research brief). AAA Foundation for Traffic Safety. https://aaafoundation.org/wp-content/uploads/2023/09/202309_2022-AAAFTS-American-Driving-Survey-Brief_v3.pdf

Suglia, S. F., Shelton, R. C., Hsiao, A., Wang, Y. C., Rundle, A., & Link, B. G. (2016). Why the Neighborhood Social Environment Is Critical in Obesity Prevention. *Journal of urban health: bulletin of the New York Academy of Medicine*, *93*(1), 206–212. https://doi.org/10.1007/s11524-015-0017-6

Environmental Protection Agency. (2024, May 14). *Carbon Pollution from Transportation*. EPA. https://www.epa.gov/transportation-air-pollution-and-climate-change/carbon-pollution-transportation

Environmental Protection Agency. (2024, May 14). *Ground-level Ozone Basics*. EPA. https://www.epa.gov/ground-level-ozone-pollution/ground-level-ozone-basics

Environmental Protection Agency. (2024, July 16). *Health and Environmental Effects of Ozone Layer Depletion*. https://www.epa.gov/ozone-layer-protection/health-and-environmental-effects-ozone-layer-depletion#:~:text=Effects%20on%20Human%20Health,role%20in%20malignant%20melanoma%20development

Miller P. (2018). Health Impacts of Suburban Development Patterns. *Delaware journal of public health*, *4*(2), 32–35. https://doi.org/10.32481/djph.2018.03.007

Wein, H. (Ed.). (2020, June 18). *Safe driving*. National Institute of Health. https://newsinhealth.nih.gov/2020/06/safe-driving

National Safety Council. (n.d.). *Historical Car Crash Deaths and Rates - Injury Facts*. Injury Facts. https://injuryfacts.nsc.org/motor-vehicle/historical-fatality-trends/deaths-and-rates/

United States Census Bureau. (2024, September 9). *United States Commuting at a Glance: American Community Survey 1-Year Estimates*. Census.gov. https://www.census.gov/topics/employment/commuting/guidance/acs-1yr.html

Fontbonne, A., Currie, A., Tounian, P., Picot, M. C., Foulatier, O., Nedelcu, M., & Nocca, D. (2023). Prevalence of Overweight and Obesity in France: The 2020 Obepi-Roche Study by the "Ligue Contre l'Obésité". *Journal of clinical medicine*, *12*(3), 925. https://doi.org/10.3390/jcm12030925

Yanatama, S. (2024, September 9). *Workers in this country endure Europe's longest commutes. how does your country compare? | euronews*. Euro News. https://www.euronews.com/next/2024/09/25/these-are-europes-longest-and-shortest-commutes-to-work-how-does-your-country-compare

Proutat, J.-L. (2023, July 12). *Transport, France's Main Source of Greenhouse Gases Emissions*. The Economic Research Portal. https://economic-research.bnpparibas.com/html/en-US/Transport-France-main-source-greenhouse-gases-emissions-7/12/2023,48748

Pascal, M., Chanel, P. de C., Wagner, V., Corso, M., Tillier, C., Bentayeb, M., Blanchard, M., Cochet, A., Pascal, L., Host, S., Goria, S., Le Terte, A., Chatignoux, E., Ung, A., Beaudeau, P., & Medina, S. (2016, July 22). *The mortality impacts of fine particles in France*. Science of The Total Environment. https://doi.org/10.1016/j.scitotenv.2016.06.213

French Government (2024, September 13). *2023 Road Safety Annual Report*. 2023 Road Safety Annual Report | French road safety observatory. https://www.onisr.securite-routiere.gouv.fr/en/road-safety-performance/annual-road-safety-reports/2023-road-safety-annual-report

Litman, T. (2015). *Analysis of public policies that unintentionally encourage and subsidize urban sprawl* (Supporting paper commissioned by LSE Cities, London School of Economics and Political Science, on behalf of the Global Commission on the Economy and Climate). Victoria Transport Policy Institute. https://www.vtpi.org/sprawl.pdf

Badger, E. (2015, March 26). *The steep costs of living so far apart*. Vox. https://www.vox.com/2015/3/26/8291889/suburban-sprawl-economy

Airgood-Obrycki, W. (2019). Suburban status and neighbourhood change. Urban Studies, 56(14), 2935-2952. https://doi.org/10.1177/0042098018811724

Florida, R. (2019, March 7). *The decline of the suburbs is at odds with the data*. Bloomberg. https://www.bloomberg.com/news/articles/2019-03-07/the-decline-of-the-suburbs-is-at-odds-with-the-data

Cahiers ESPI2R. (n.d.). *Cahiers ESPI2R*. https://www.cahiers-espi2r.fr/

Turner, M. A., & Greene, S. (n.d.). *Causes and consequences of separate and unequal neighborhoods | Urban Institute*. Urban Institute. https://www.urban.org/racial-equity-analytics-lab/structural-racism-explainer-collection/causes-and-consequences-separate-and-unequal-neighborhoods

Massey, D. S., & Tannen, J. (2017). Suburbanization and segregation in the United States: 1970–2010. *Ethnic and Racial Studies*, *41*(9), 1594–1611. https://doi.org/10.1080/01419870.2017.1312010

Leacock, K. (2019, October 29). *A brief history of housing policy in the U.S.* National Nurse-Led Care Consortium. https://nurseledcare.phmc.org/advocacy/policy-blog/item/641:a-brief-history-of-housing-policy-in-the-u-s.html

Fernandez, J. (2024, August 22). *Racism by design: The building of Interstate 81: ACLU*. American Civil Liberties Union. https://www.aclu.org/news/racial-justice/racism-by-design-the-building-of-interstate-81

Loh, T., Coes, C., & Buthe, B. (2020, December 16). *Separate and unequal: Persistent residential segregation is sustaining racial and economic injustice in the U.S*. Brookings. https://www.brookings.edu/articles/trend-1-separate-and-unequal-neighborhoods-are-sustaining-racial-and-economic-injustice-in-the-us/

Karoub, J. (2021, April 29). *Commission: "systemic racism" at Root of Flint water crisis*. AP News. https://apnews.com/article/df42de2ec4424193866467a2981ccb51

Tissot, S. (2008). *French suburbs: A new problem or a new approach to social exclusion?* (Working Paper No. 160). Working Paper Series. https://halshs.archives-ouvertes.fr/halshs-00285025

Lefebvre, I. (n.d.). *Life in France's Banlieues: Overview and battle plan*. Institut Montaigne. https://www.institutmontaigne.org/en/expressions/life-frances-banlieues-overview-and-battle-plan

EPA. (2025, February 15). *About Smart Growth*. https://www.epa.gov/smartgrowth/about-smart-growth

Montgomery County, Maryland. (2024, February 6). *Study of mixed-use development trends*. Montgomery Planning. https://montgomeryplanning.org/tools/research/real-estate-and-land-use/mixed-use-study/

Pena, J., & Shah, S. (2022, March 28). *Supporting active living through mixed-use developments*. American Planning Association. https://www.planning.org/blog/9227408/supporting-active-living-through-mixed-use-developments/

Green, J. (n.d.). *Don't miss Tomorrow's Smart Cities Industry News*. Smart Cities Dive. https://www.smartcitiesdive.com/ex/sustainablecitiescollective/do-urban-growth-boundaries-work/1070356/

Chan, J. (2023, February 4). *Suburban sprawl: Mapping the environmental destruction of Suburban America*. The Earth Chronicles. https://earthchronicles.org/suburban-sprawl-mapping-the-environmental-destruction-of-suburban-america

Tamura, M., & Kane, J. (2024, February 20). *It's not just cities-suburbs and exurbs need to adopt and implement climate plans too*. Brookings. https://www.brookings.edu/articles/its-not-just-cities-suburbs-and-exurbs-need-to-adopt-and-implement-climate-plans-too/

Jancovici, J.-M. (2004, April 1). *Urbanizing France : how long before our country is a single city?* https://jancovici.com/en/energy-transition/land-use/urbanizing-france-how-long-before-our-country-is-a-single-city/

Brinke, W. (n.d.). *France Climate change*. Climate Change Post. https://www.climatechangepost.com/countries/france/climate-change/