Infrastructure Collapse and Systemic Racism : The Case of Houston

Last February, as the world was overloaded with figures and reports on the Covid-19 casualties, but also hopes about a newly developed vaccine, a rather unexpected news reached the frontpage of newspapers and social media. A winter storm had caused a failure of the Texas power grid, leaving thousands of inhabitants without heating or water. I remember how at the time this gave some of my fellow Swiss citizens a sense of superiority. How could an entire State be shut down due to a bit of snow?[1] After a few days, we learned that up to 700 people lost their life during the Crisis, either from hypothermia or monoxide poisoning (Calma 2021). Suddenly, there was nothing to laugh about anymore.

It then became clear that the collapse of the power grid could have absolutely been avoided, had the necessary precautions been taken. So why was the power grid in such a poor state? It is mainly due to the politics of deregulation unique to Texas owning its own power grid, with very little connection to the rest of the United States. This self-reliance has two implications: on the one hand, the prices can be kept very low due to the lack of regulations. On the other hand, it makes it almost impossible to import energy from neighbouring States (Englund 2021). As the power failure continued to worsen, the impact of these problems became very clear. Indeed, keeping the prices as low as possible implies that cuts must be made on other costs, like proper winterization of the infrastructure, despite the multiple warnings of the Federal Energy Regulatory Commission (FERC) on the need to upgrade the grid (ibid).

By looking at the literature produced on that case, it becomes clear local actors and academics have a very different way of analysing the event. On the one hand, statements of people on the field and newspaper articles highlighted the abandonment of the most vulnerable citizens by their government. The Guardian gathers testimonies of solidarity networks between neighbours lacking any aid from the State, (Villarreal 2021) while Tempest writes about an “intersecting crisis” made of racism, political and fiscal failure, and climate change (Shingavi 2021). On the other hand, the scientific literature seems to focus on the failure of the power grid in itself. Most point out the blatant lack of winterizing of the power grid (Travis 2021, Magie 2021), as others focus on the implications of the economical model chosen by Texas in order to lower the prices (Mackholm 2021, Littlechild 2021).

One exception is a report from the University of Massachusetts stating that “minorities suffered four times more power outages in Texas blackouts” than white neighbourhoods (Dettloff 2021). Although such a clear link made between racial status and outcome of the power outage is rare enough in scientific literature to be pointed out, nothing is said about the causes of this disparity. It is worth noting that this study was conducted in partnership with the Rockefeller Foundation, who is also at the origin of the 100 Resilient Cities Program. As it will be developed later, it is then not very surprising that the study focuses on the solutions rather than the causes of those inequalities.

My goal in this essay is to more explicitly link infrastructure and social inequities by showing how the neoliberal politics undermining the Texas power system reproduce social inequities. In order to do so, I will draw on three key concepts. I will first use the concept of the Growth Machine, originating from Molotch, to analyse the ways in which deregulation of the power grid was used for the profit of a few. I will then use both concepts of racial capitalism and racial liberalism (Pulido 2016 , Ranganathan 2016) to shed light on the racial component of the power outage.

[1] See also 17 best Texas Snow 2021 Memes: Twitter users react to #TexasFreeze! (hitc.com)

Although the Power Crisis hit the whole state of Texas, I chose to focus on the city of Houston due to lack of time and space. It is presumable however that the conclusions would be similar had I chosen to focus on other big cities such as Austin or Dallas.

The concept of the Growth Machine was coined by Molotch to describe the development of (mainly North-American) cities. According to him, cities are the "expression of the interests of some land-based elite . . . compet[ing] . . . to have growth-inducing resources invested within its own area " (Molotch quoted in Freudenburg 2009 : 57). For Freudenburg, the Growth Machine can be understood as "a process that is built and set in motion by persons who focus on profit and "progress"" without regard to the possible damages caused by it (Freudenburg 2009 : 10). Houston has the particularity to be the largest city in the US without any zoning laws, which enables growth almost without conditions. Until 2018[2], it was even possible to build on flood hazard areas (for the most part drained wetlands), consequently leading to damages during Hurricane Harvey in 2017 (Campoy 2017). Shingavi argues that one key element that led to the collapse of the power system was Houston's "massive explosion in commercial and residential construction for which the infrastructure is barely equipped." (Shingavi 2021) The same concerns were reported by the Houston Chronicle, stating that "the push for greater density […] created infrastructure problems" (Morris 2012). If one still has any doubt on whether Houston can be described as a Growth Machine, the following quote by urbanist Joel Kotkin should be convincing: "Should Houston abandon growth to defend itself against projected climate change? Great cities don't surrender; they build themselves around resiliency " (Kotkin 2017). Here growth is depicted as part of Houston's DNA, and even climate change should not be allowed to disrupt it.

This quote also allows me to digress a little and think about the notion of resiliency. Along with Bonds, we can argue that resilience planning is underpinned with neoliberal logic and that its "emphasis on adaptation rather than structural change has little to do with building a more just city" (Bonds 2018 : 1286). This is particularly relevant in the case of Houston, as the city is part of the 100 Resilient Cities program aiming to "help cities to improve the robustness, flexibility and inclusiveness of their systems, and to build resilience capacity across stakeholder groups."[3] Resilience discourses tend to erase systemic inequalities and picture disasters as a chance for a city to "bounce back" and come back stronger than ever. Seeing disasters as an opportunity for profit is also part of the Growth Machine's logic as it does not give any space to the critique of growth and progress as a solution. It is moreover ironic to see that Houston was unable to manage the Power Crisis, despite being a part of the ambitious Resilient Cities program.

It has been shown that the concept of Growth Machine is relevant in the context of Houston, whose infrastructure cannot keep up with its urban development. I also argue that the concept can be applied to the power grid management in itself. Indeed, if "the Growth Machine can move relentlessly ahead until it reaches its own level of incompetence" (Freudenburg 2009 : 10), so can the Texas Power Grid.

As stated above, the Texas power grid is managed following deeply neo-liberal logic. It is worth noting that before the crisis, this policy had kept the prices relatively low in comparison with the rest of the country. As also stated by Freundenburg, "the people who work hardest to energize the Growth Machine are usually seen not as villains, but as community leaders " (Freudenburg 2009 : 10). What the low prices were also hiding was the tremendous profits of private energy providers. At the height of the crisis, some electricity bills rose all the way to $9000 per megawatt-hour, syphoning off the

[2] See Chapter 19 - FLOODPLAIN | Code of Ordinances | Houston, TX | Municode Library
[3] 100 Resilient Cities Strategy Partner - Arup

savings of the poorest families. At the same time, Energy Transfer is said to have made 2.4 billion dollars by selling gas at extremely high prices during the crisis (Kumar 2021).

If the concept of Growth Machine partly explains the failure of the power grid, it does not help us to grasp the racial component of the crisis. As shown by the University of Massachusetts, "high minority share areas" were 35% more likely to suffer from a power outage than white areas (Dettloff 2021). Drawing on the concept of racial capitalism, I will try to shed light on the ways class, race and vulnerability are intertwined.

The three maps below show interestingly matching patterns. The first one (Fig. 1) displays the households earning less than $10.000 a year in red. The second one (Fig. 2) shows the demographics of different neighbourhoods; Black people are represented in orange, latino people in green, and white people in blue. The last map (Fig. 3) is a satellite image of the power outage on the 16th of February 2021. By overlapping the two last ones (Fig. 4), we see the racial composition of the neighbourhoods that were left without electricity for the longest period of time (the parts of the city that have been darkened are the parts of the satellite picture that were still lit up. In other words, the parts that stand out the most are the neighbourhoods that suffered the most of the outage.) Except for the rather well-off white neighbourhood of Memorial (on the West part of the map), the three other major zones which suffered from the outage were predominantly Black and Latino. Figures corroborate this analysis, as 26% of black Houstonians live in poverty, against 10% of the white community. [4] The correlation between neighbourhoods inhabited by racial minorities and the power outage is also documented by the University of Massachusetts. On the map on page 6 (Fig. 5), pink and green are the dominant colours. Pink represents the neighbourhoods with a high percentage of minority population and a high percentage of people having suffered from the outage. The green spots are inhabited by white communities who did not suffer from any power outages. It is then possible to argue for a strong correlation between race, wealth and power outage. In order to shed light on that correlation, the concepts of racial capitalism and liberalism will be useful.

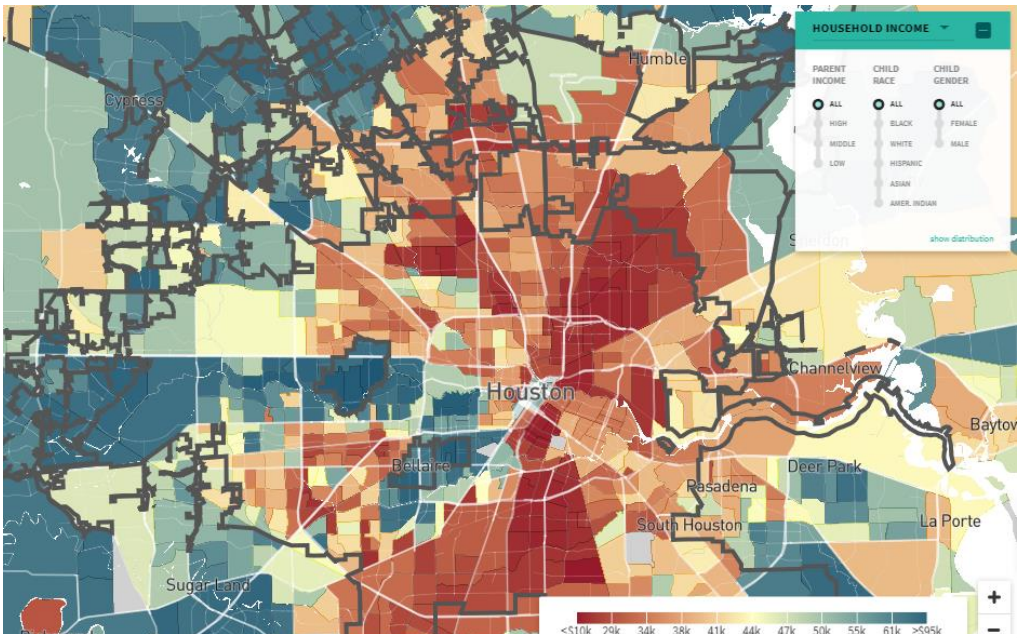


Figure 1 : Poverty Map of Houston

[4] 21.2% Poverty Rate in Houston, Texas (welfareinfo.org)

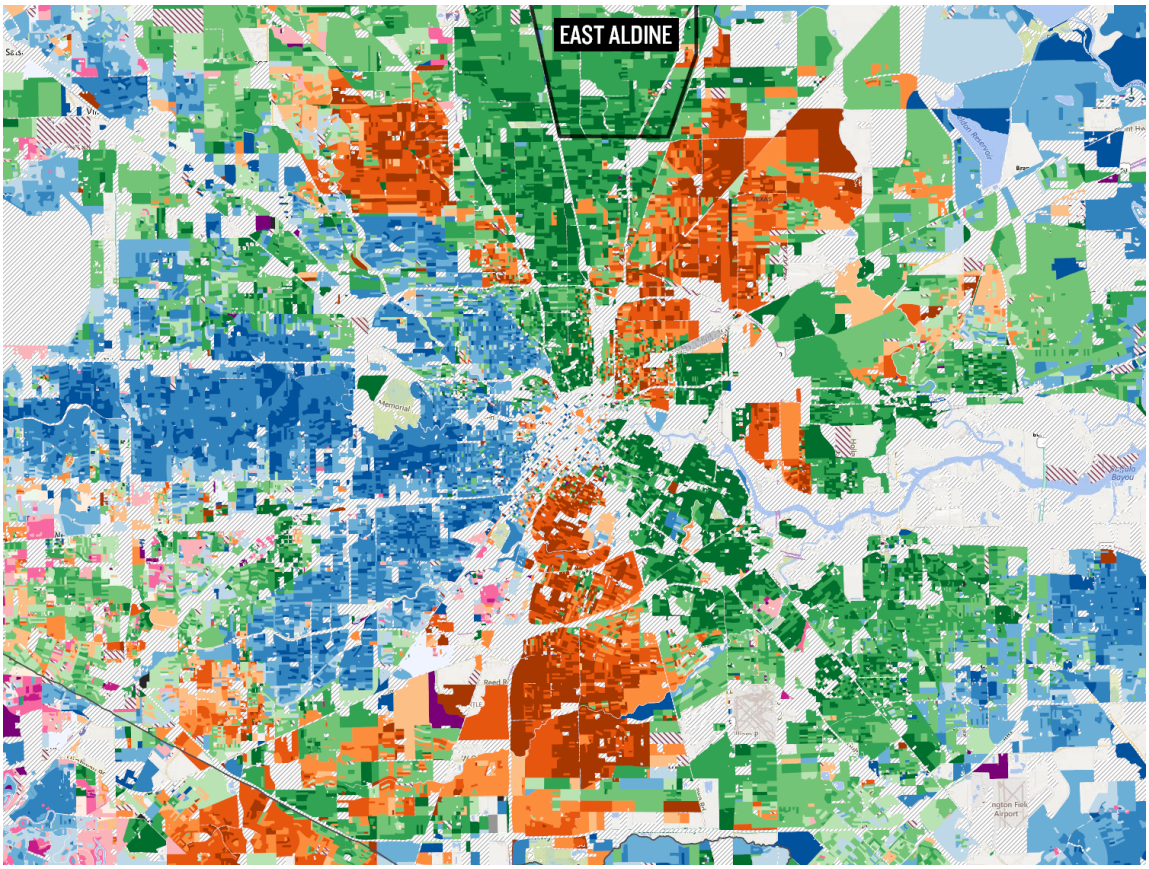


Figure 2: Race and ethnicity in the Houston area, 2010. Green is Hispanic/Latino, blue is White, orange is Black, and purple is Asian.

Figure 3 : Houston the 16.02.21

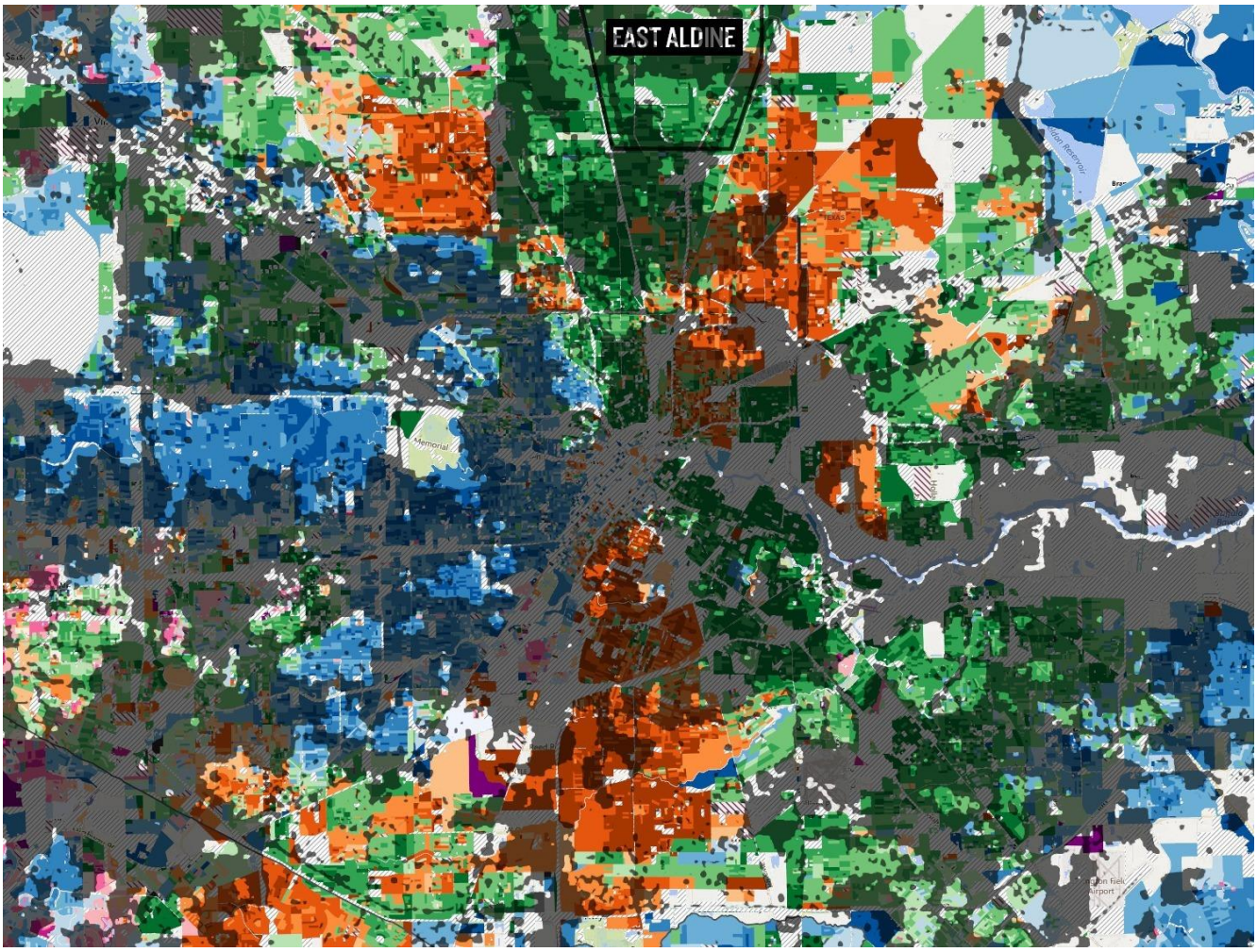
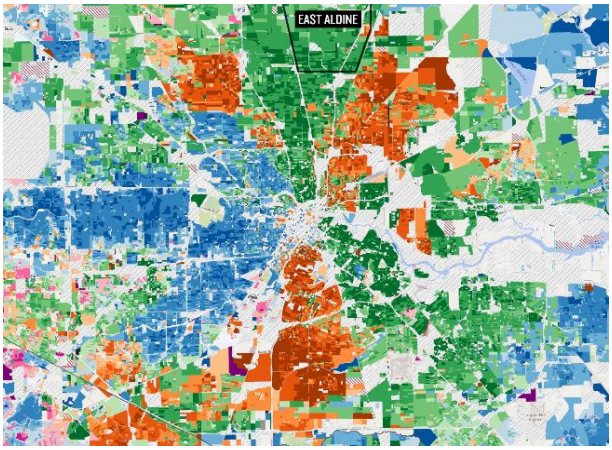


Figure 4 : overlap of Fig. 2 and 3



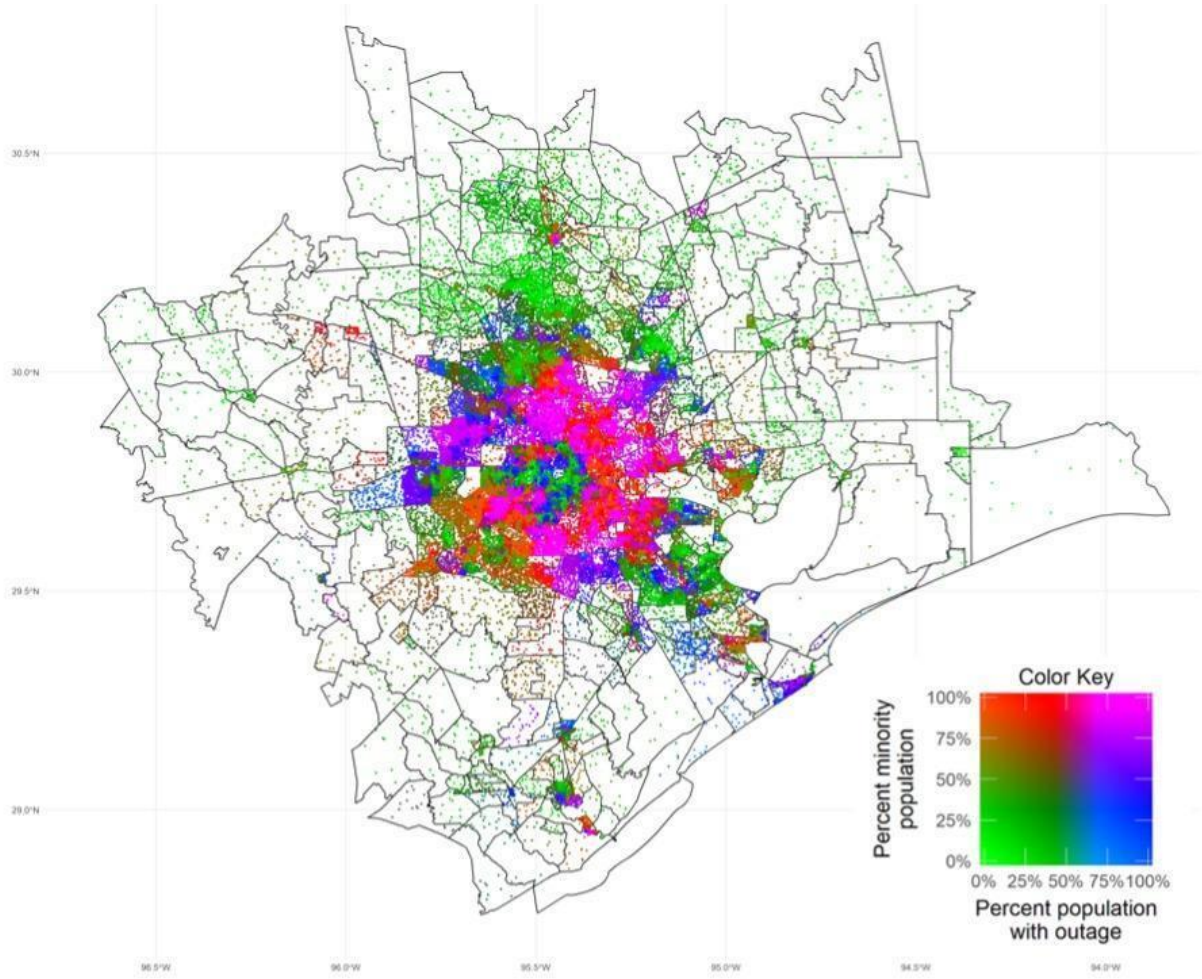


Figure 5 : Houston between the 14-18.02.21. Each dot represents 100 people.

Pulido defines racial capitalism as the devaluation of certain groups of people, based on culturally constructed criteria such as race as well as their "surplus status". (Pulido 2016 : 1) She also draws our attention on the fact that "infrastructure is the manifestation of past wealth and capacity and its eroding status, which is actively being produced in the present, signifies the politics of abandonment" (Pulido 2016 : 4). Even if her case study for this paper is the city of Flint and its ongoing water poisoning, I argue that the same politics of abandonment are at play in Houston and explain why the poor and black neighbourhoods have suffered more intensely from the power crisis. To support this point, I am drawing from Ranganathan's paper on racial liberalism in Flint, where she reminds us that in the US, the racialization of the different neighbourhoods of cities is the consequence of public policies. She argues that not only could non-white people not access property and thus could not accumulate wealth, but then also accrued and passed down debts and punishing credit scores to their heirs (Ranganathan 2016 : 25). Racialized dispossession is then a product of racial liberalism, despite its "rhetoric of equality for all" (ibid.). In other words, segregated poor and non-white neighbourhoods are the result of long-lasting liberal policies. It is then unsurprising that one of the first neighbourhoods to lose power was Acres Homes (Dobbins 2021), which is also a part of the "Houston Complete

Communities" program, a "citywide initiative to revitalize Houston's most under-resourced neighborhoods". [5] Those parts of the city not only suffered during the crisis due to dilapidated infrastructure. They were also the first victims of the significant rise of energy prices during the storm, which was a direct result of the deregulated energy policies.

It would also be interesting to have access to information on the state of decay of the power grid in different Houston neighbourhoods. I sadly could not find such data and my knowledge in electric engineering is far from sufficient, however I did obtain a map displaying the different voltages of the power lines. As we can see by overlapping the map of the outage and the one of the power lines (Fig. 6), the lowest voltage lines (in green) are found in parts of the city that suffered outages and, as it has been shown, in poor and black neighbourhoods. It is then possible to argue that the low voltage shows the ageing and neglected state of the infrastructure in those parts of the city.

It has been shown that the neoliberal politics which dominate in Houston, and in Texas more generally, are the root cause of the poor maintenance of the power grid. This, coupled with racial capitalism, led to a greater abandonment of infrastructure in poor and mostly black neighbourhoods. Many other factors, such as the officials and community response to the disaster, deserve to be investigated further but are not in the scope of this short essay. In conclusion, I believe it is important to stress that Houston is not a unique case, and the ways in which liberalism and racism intertwined to create this disaster are present in cities across the United States and all around the world. Structural inequalities need to be acknowledged and addressed if we really want to protect cities, and more importantly city dwellers.

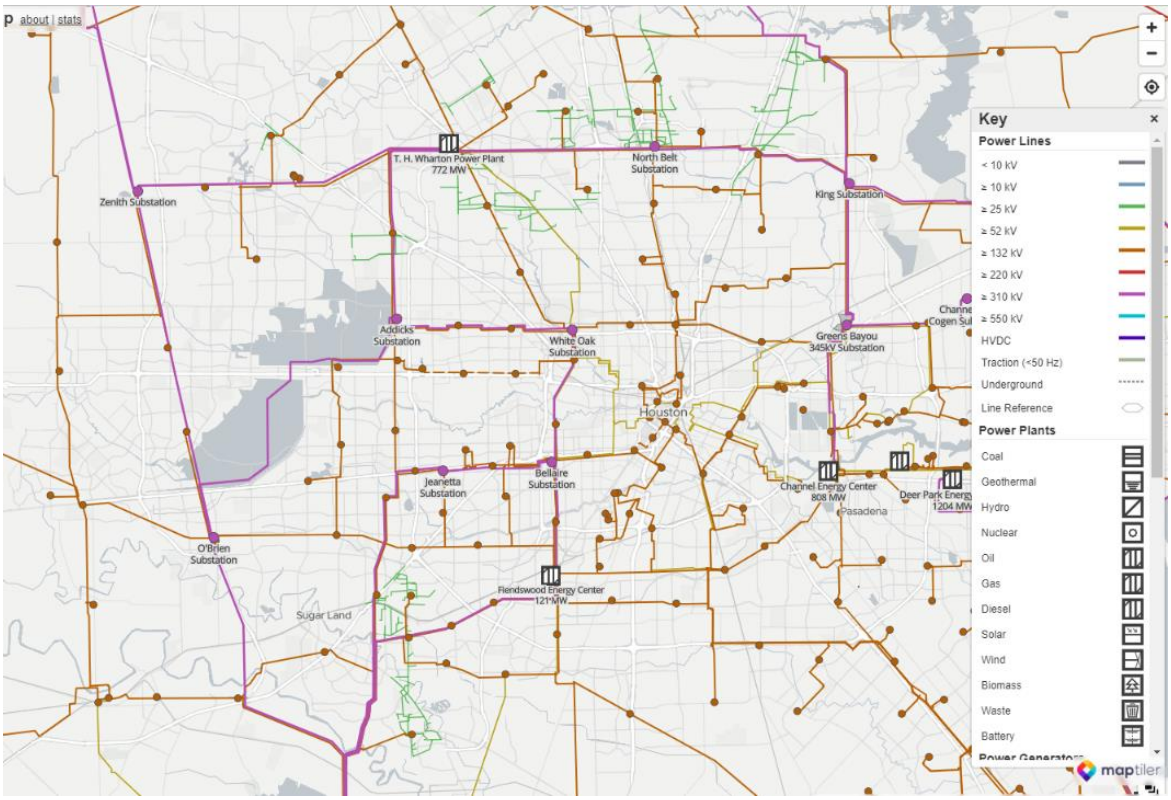


Figure 6 : Power Lines of Houston

[5] Mayor's Office of Complete Communities (houstontx.gov)

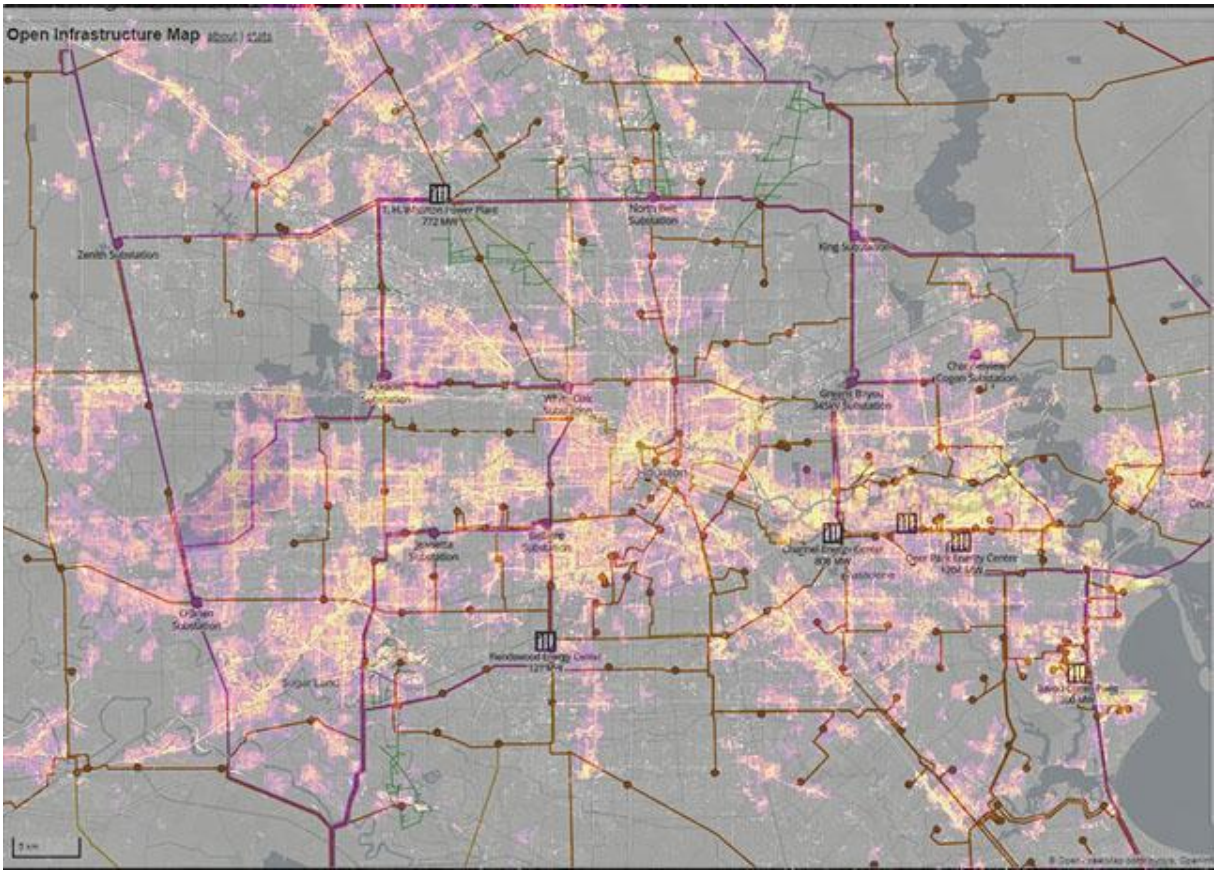
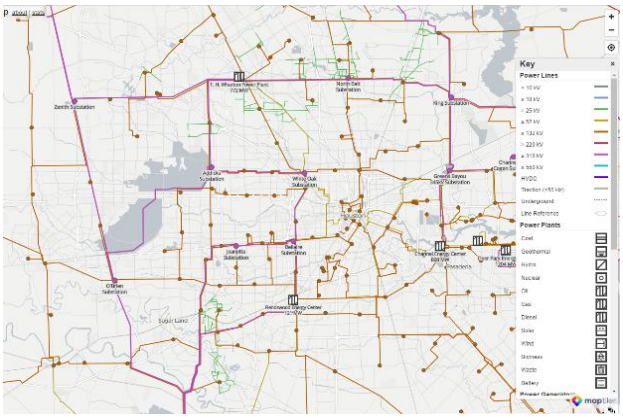


Figure 7 : Overlap of Fig. 3 and 6



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Images :

Fig. 1 : Map made by RPS Relocation : Maps of Poverty Cycles in Major US Cities - RPS Relocation

Fig. 2 : Map made by the Center for Urban Research, CUNY Graduate Center: Houston's Quiet Revolution (placesjournal.org)

Fig.3 : Map made by the NASA : Extreme Winter Weather Causes U.S. Blackouts (nasa.gov)

Fig. 4 : Overlap of Fig. 2 and Fig. 3 using Adobe Photoshop.

Fig. 5 : Map made by the University of Massachusetts : Frozen out: minorities suffered four times more power outages in Texas blackouts | UMass System (massachusetts.edu)

Fig.6 : OpenInfrastructure Map : https://openinframap.org/#2/26/12

Fig.7 : Overlap of Fig. 3 and Fig. 6 using Adobe Photoshop.