

Power, planning, and avenues for change

Uncovering levels of power within
Metropolitan Planning Organizations to
encounter avenues for the achievement
of urban environmental justice



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Glossary

COG *Council of Governments*

COH *City of Houston*

DFW *Dallas-Forth Worth*

DOT *Department of Transportation*

EJ *Environmental Justice*

HC *Harris County*

H-GAC *Houston-Galveston Area Council*

MPO *Metropolitan Planning Organization*

NHHIP *North Houston Highway Improvement Project (also referred to as the “I-45 expansion”)*

RTP *Regional Transportation Plan*

TAC *Transportation Advisory Committee*

TIP *Transportation Improvement Program*

TPC *Transportation Policy Committee*

TX-DOT *Texas Department of Transportation*

1. Introduction

In 1961 Jane Jacobs published her seminal work on cities and urban justice, *The Death and Life of Great American Cities*. In the book Jacobs discusses the uniqueness of cities and the destruction of what she considers valuable assets of city life, namely spaces that are often utilized by residents including sidewalks, shops, and balconies, through the construction of highways and the subsequent displacement of entire neighborhoods to what would become known as “the projects.” The book is at its core a critique of the city planning process - which she saw as hugely revolving around the transportation infrastructure for automobiles. Jacobs was known in New York City during her time as an activist to be a regular attendee at city hall meetings, calling herself an “addict” of board meetings (Jacobs, 1961). She memorably writes about the experience saying “The members of the Board listen, interject and sometimes hand down decrees on the spot like rulers holding court in the manor during medieval days” (Jacobs, 1961, p. 406). This description conjures up an image of hierarchy - the members of the board wielding unrestrained power over the process. The following research will dive more deeply into exploring how power may impact the urban transportation planning process, and will allow us to discern whether much has changed since Jacobs first wrote about justice and its relationship to transportation planning.

Jacobs was writing in the middle of the twentieth century - a time in which highway construction across the United States was booming. The new majority white suburbs were provided with direct access to urban centers - and those left in urban centers were left to bear the brunt of the burden of highway construction. Between 1957 and 1977 more than 475,000 people nationwide were displaced as a result of new highway construction - many of whom were low income people of color (Blakemore, n.d.). Highways have been used in the United States as tools of domination,

segregation and injustice (Karas, 2015; Rose & Mohl, 2012). The construction of new highways served to separate our cities - you no longer lived on the wrong side of the tracks but instead on the wrong side of the interstate.

As will become evident in the case discussed in this paper, over half a century since Jacobs posed this question, and even in the face of a radically changing climate, our cities continue to erode in order to accommodate automobiles, and to appease the rural minority (Sanchez, 2006). This trend toward highway construction has had a lasting effect on the environment of these urban areas. Emissions from single occupancy vehicles have contributed to global warming through the output of CO₂, and are also responsible for increased air pollutants (Fuller and Brugge, 2020). This increased pollution has led to increased risk of health issues including cancer, asthma, and heart-disease in communities that are situated near highways and high-traffic areas, which are often populations with a high density of low income people of color (Khreis et al., 2020). This indicates a need for new transportation planning to focus on decreasing the amount of combustion vehicles, and “taking into consideration social justice and equity in transportation planning” (Khreis et al., 2020, p. 507).

In 1994, through executive order, President Bill Clinton established Environmental Justice (EJ) as federal policy. This executive order consists of three directives for federal agencies to minimize harm to minority communities to the greatest extent possible, to each have a strategy for implementing EJ, and to promote nondiscrimination through the provision of access to information and participation (*Summary of Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, 2013). In the nearly 30 years since this was established as federal policy, the construction and expansion of highways has continued to dominate national transportation policy, exacerbating experiences of environmental injustice. It is here that it becomes imperative to ask: why we have yet to see a radical reform of our urban transportation systems away from highways as the default, who is making the decisions on urban transportation infrastructure, and how communities who are impacted by these decisions can successfully advocate for sustainable and environmentally just transportation planning.

In urban areas in the United States the majority of transportation planning is done by Metropolitan Planning Organizations (MPO's). MPO's are regional, intergovernmental organizations that are federally mandated to exist in every region with over 50,000 residents. Initially created to coordinate highway planning in post-world war America - the role of MPO's have broadened significantly over time, and now are also tasked with establishing bike, pedestrian, and multimodal transportation plans, and are also held to federal standards of environmental justice (Sanchez & Wolf, 2005). However, the majority of transportation dollars in the United States is spent on the construction and upkeep of highways (*US Transportation & Infrastructure Stats | 2022 State of the Union*, n.d.). A place where this is especially evident is Houston, Texas, which will be the city that this research focuses on. Houston is the fourth largest city in the U.S. and is growing rapidly. It is also currently the site of a highly publicized and hugely contested highway expansion project, which the region's MPO has approved but has been put on hold by the federal government (USDOT) over concerns of environmental injustice. This is not an isolated incident, but points to a larger trend

As cities, like Houston, continue to grow, there is no doubt about the need for transportation systems to adapt to this influx of residents. MPO's are tasked with establishing long range 20 year plans for their regions, meaning that decisions made today will affect the transportation landscape of 2045, and with the climate scientists warning that unless there is a rapid decrease in CO2 emissions, the frequency and severity of climate disasters will increase exponentially (Mechler et al., 2020). This means that new infrastructure should not only be designed to mitigate, but also be prepared to withstand the effects of climate change. At the same time, highway expansion and construction continues to dominate new infrastructure projects in the United States (*The State of U.S. Infrastructure* | Council on Foreign Relations, n.d.), especially in Houston which is seeing a rapid increase of residents and is attempting to alleviate the strain on the transportation system by approving projects that make room for single occupancy vehicles.

1.1 Research aim, research questions

Grassroots and community based organizations have been at the center of the environmental justice and urban justice movements across the country , however, these groups are not represented on boards of MPO's (Sanchez & Wolf, 2005). Much of the research on MPO's and equity focusses on representation (gender, racial, urban/suburban) (Sanchez, 2006; Sanchez & Wolf, 2005; Luna, 2015). This research will instead utilize the "powercube" framework to identify the ways in which power operates within MPO's in order to assist community and grassroots organizations in finding paths through which they can successfully advocate for transportation policy that moves towards achieving environmental and urban justice. The powercube framework identified three different "forms" of power - which will provide the basis for the sub questions elaborated on below. This will be further explored in the theoretical framework section of this research. Therefore this research asks: *How do power dynamics within the Houston Metropolitan Planning Organization shape the environmental justice outcomes of transportation policy?*

This will be elaborated on through the answering of the following subquestions:

1. Who are key actors involved in the policy process?
2. How and between whom does visible power manifest within the TPC policy making process?
3. How does invisible power manifest within the policy making process?
4. How does hidden power manifest within the policy making process?
5. Do Environmental Justice communities hold power within the policy making process?

1.2 Social and scientific relevance

This research finds its place within the literature through the application of the powercube framework (Gaventa, 2019) to the operations of a Metropolitan Planning Organization, which, to the authors knowledge, has yet to be done. The powercube framework is suited to this an examination on how power in policy making spaces may have an impact on justice because it

facilitates an understanding of “how different interests can be marginalized from decision making, and the strategies needed to increase inclusion” (Luttrell et al., 2007, p. 1)

This research will add to the growing body of literature that utilizes the powercube framework to explore decision making in local spaces (Rabé & Adalbertus, 2012) , as well as attempt to move from “diagnosis to action.” This type of analysis using the powercube framework is what Patazidou (2012) refers to as context analysis which is defined as using power analysis to:

- *“Analyze the local, national, or international context in order to design a program or to develop or refine action strategies.*
- *Explore the effects and potential of current organizational practices*
- *Understand the power dynamics that shaped a past event, policy change or decision making process” (Patazidou, 2012, p. 9)*

Along with adding to the literature as it relates to the theory, this work will also add to the literature by other authors (Luna, 2015; Nelson et al., 2004; Sanchez, 2006) on power and injustice within the policy making process of MPO's. Still, little information is available “on the governance structure of MPO's” (Bond & Kramer, 2010 p. 19). The Powercube - with the addition of spaces, levels, and forms of power - will add dimension to this body of literature. This follows what was suggested as a further area of study by Luna (2015), who in his own research did not include the “role or importance of state and regional entities that hold permanent seats” (p. 292) on MPO boards.

There have been ample studies done on environmental injustice and the relationship to transportation planning. However, as the Biden administration begins to work on the one trillion dollar infrastructure bill that was passed earlier this year with bipartisan support which includes large sums of money for modernizing the United States' transportation systems (Cochrane, 2021), and will include money that is federally allocated to MPO's, this research will provide information to assist community groups and stakeholders in identifying avenues through which to influence the distribution of these funds. This involvement of community based groups, is imperative in meeting the transportation needs of the future especially where environmental and social issues are concerned (Nelson et al, 2004). In order to meet standards of both environmental and social justice, it will be imperative that these new projects do not replicate the planning processes that have in the past led to perpetuating both urban and environmental injustice (Sanchez & Wolf, 2006=5).

2 Literature review

The following literature review will include sections on environmental injustice, urban justice and power within MPO's. The first two bodies of literature are relevant to the justice aspect of the research aim. This literature is relevant as it will provide an understanding of the ways in which policy output from an MPO might contribute to experiences of both urban and environmental injustice. The third body of literature will help place this research in discussion with others who have inspected the inequities of MPO's and give information on why MPO's are key players in addressing environmental injustice in metropolitan areas.

2.1 Environmental injustice and urban transportation planning in the United States

This section will bring together literature on environmental justice and urban transportation planning in the United States in order to show that research on transportation planning can have implications for environmental justice. The first section will provide a brief history into environmental justice literature and definitions, and the second section will focus this literature on transportation.

2.1.1 Introduction to environmental justice

Environmental injustice has been considered from a variety of philosophical and empirical traditions. The basis of these perspectives on injustice often is the agreement that “poor communities, indigenous communities and communities of color get fewer environmental goods, more environmental bads, and less environmental protection” (Schlosberg, 2009, p. 4). Conversely, environmental justice has been defined by Dr. Robert Bullard as the notion that “all people and communities are entitled to equal protection of environmental and public health laws and regulations” (Mohai, 2018). This closely follows the Rawlsian concept of distributive justice, a commonly cited definition of justice in environmental justice literature (Schlosberg, 2009) in which what is considered in the just distribution of goods. In the United States environmental justice has been closely related to racial justice issues. Schlosberg (2004; 2009) rejects this Rawlsian conception of environmental justice and instead argues that environmental justice hinges on democratic recognition and participation. These aspects of environmental justice are key to this research, as it concerns the effects of participation or lack thereof on the environmental justice outcomes.

2.1.2 Environmental justice and transportation

Especially where it concerns the placement of environmentally harmful or toxic industry (Bullard et al., 2008), examine the “chicken and egg” paradox and show that BIPOC (Black, Indigenous, People of Color) residents don’t necessarily move into areas with already existing hazardous waste facilities, but that companies actually tend to single out communities of color more often than not. Salazar et al. (2019) find, through analysis of data that relates air pollution levels to race and income over a period of 25 years, that over the past decade pollutant exposure rates and inequality are increasing in some states. This occurred even amidst a heightened awareness of environmental issues and new environmental policy development. Henderson and Wells (2021) analyze how environmental racism has infected Black lives in the United States. They emphasize that exclusionary housing policies concentrate housing inequities, unfairly exposing Black communities to environmental pollutants and separating them from fundamental health assets (Henderson & Wells, 2021).

In relation to racial environmental injustice the article concludes that “race-based inequality is positively related to exposure” and that “the strength of this relation increased over time” (Salazar et al., 2019). There is also a trend for poorer communities of color to be situated closer to highways - which is the result of highway placements during the Jim Crow era (Chi & Parisi, 2011). Ample literature exists on the trend for these affected communities to have higher rates of health problems due to exposure - including asthma from air pollution and cancer which has been linked to exposure to environmental toxins (Gössling, 2016). These relationships are further expanded

upon in critical environmental justice - based in post-structuralist theory- which bridges the gap between critical race theory and environmental justice. In this school of thought environmental justice is defined as the phenomenon when “the harms suffered by ecosystems today closely mirror the harms suffered by the most marginalized human beings across the planet” (Pellow, 2017). When considering the relationship between climate adaptation and just transportation planning Schlosberg et al. (2017) propounds that:

“For an adaptation process to be just and transformative, anything that may be lost due to climate change, as well as the trade-offs between different values and needs, should be clear and explicit, through active public engagement on the different values, discourses, and potential losses involved. Failure to identify, make clear, and engage the broad public about these potential trade-offs will lead to the marginalization of those without power and influence, and lead to climate impacts that are ‘morally unacceptable’ and, so, unjust” (Schlosberg et al., 2017, p. 416).

There is, therefore, an inextricable link between the attainment of environmental justice through transportation infrastructure planning, and the way that power operates within that policy process.

2.2 Justice and urban transportation planning

This section will sketch a more complete picture of what the links between justice, transportation, and environmental issues are in urban areas (like Houston) where MPO’s are tasked with developing the transportation systems. In the paper “Urban Justice and Sustainability” Fujita (2009) makes the argument that “sustainability and urban justice are not only compatible but interdependent” (p. 380). The literature on urban justice starts with a heavy emphasis on a philosophical approach to justice. Many start with a Rawlsian conception of distributive justice (Fainstein, 2011), although there is a trend for philosophers of urban justice to move beyond this Rawlsian conception to new theories of justice that consider the just city to “create the conditions of human flourishing” (Fainstein, 2011, p 5). There are power imbalances which manifest in the planning process - namely that “certain modes of argumentation can attain a hegemonic position in the discourse. Some actors are heard whilst other voices are excluded” (Vinge, 2018p. 21).

There is agreement within the literature that the transportation planning process in the United States often overlooks issues of urban and environmental injustice in favor of focussing the path of least resistance to economic gain (Deka, 2004). Highways are disproportionately used by white commuters who live in wealthy suburbs and work in the city, however the impacts of highway construction are felt most often by minority communities (Bullard & Wright, 1986; Deka, 2004). These communities suffer the greatest environmental harms including air pollution, increased risk of flooding, and soil contamination (Deka, 2004; Gössling, 2016; Grienski et al., 2007) , and have been historically displaced in favor of these projects (Deka, 2004; Grienski et al, 2007). The construction of new automobile based transportation infrastructure, including highways, contributes to higher CO2 emissions and by extension to climate change - making the construction of new highways a global climate justice issue (Gössling, 2016), and the construction of mass transit as a “blueprint for a new regionalism to solve urban and environmental injustice in the United States” (Fujita, 2009, p. 380). Not only that, but building mass transit in an effort to

curb CO2 emissions “challenges a car dependent society, provides more equal access to mobility for the disadvantaged and reduces uneven accessibility to jobs among communities in metropolitan regions, particularly in the United States” (Fujita, 2009,p. 380). Even if an urban area decides on planning a highway that meets environmental justice standards, as opposed to investing in mass transit, this requires that, once a cost or value of the project is determined by EJ entities, that the communication with local communities remains open and equitable - in order to minimize adverse impacts (Davis & Jha, 2011).

Urban areas have historically been the center of progressive movements in the United States - from civil rights to the environmental movement - they are the areas where communities so often rally together to fight injustices (Hytrek, 2020). These movements that are centered in urban areas are “about people, but most importantly they are about power; not only understanding who has it, but the importance of base building for it” (Hytrek, 2020). It is therefore crucial to investigate in which ways the power structures governing these decisions (within MPO’s) are affecting the attainment of justice.

2.3 Metropolitan planning organizations - equity and power

There is ample literature on equity issues that are present within MPO’s - much of which revolves around the makeup of their voting membership. MPO’s voting membership is often composed of elected officials from the region, and some state representatives. The only requirement provided by the federal government on the composition of MPO boards is that they include local elected officials, modal authorities and appropriate state officials. Other than this simple requirement, federal law is silent on board size, composition, voting rights of members and advisory committees to the board” (Bond & Kramer, 2010, p. 19). This means that each MPO is unique in the way that it represents its constituents.

Since there is no guidance or law that dictates equitable representation within voting membership on MPO boards. Research has found that it is common for these less populous and less diverse areas to have voting power similar to, or greater than, more populous and more diverse regions (Nelson et al, 2004; Luna, 2015; (Sanchez, 2006). This results in rural and suburban populations having more of a “voice” than urban populations (Nelson et al, 2004; Luna, 2015; Sanchez, 2006). In a case study done by Luna (2015) on the Boston MPO, it was found that although the City of Boston made up 20% of the population represented by the MPO it only made up 1% of the membership. The data collected from this study also found that white communities were overrepresented, concluding that the “voting structure is thus unrepresentative and racially biased, and introduces the potential for bias in decision making” (Luna, 2015, p. 291). Another review of 50 large MPO’s by Sanchez (2006) also found there to be under-representation of racial minorities in MPO membership. This study included data on the Houston-Galveston Area Council which was found to have a high suburban bias in voting, with only .7 members representing every 100,000 residents (Sachez, 2006).

This voting bias has notable implications for environmental justice. In their inquiry into MPO's and transit investment bias, Nelson et al (2004), conclude that MPO voting structure, especially where it concerns the urban/rural divide, greatly influences the allocation of transportation funding in the region. This results in a bias towards more highways and less sustainable transportation infrastructure (Nelson et al, 2004).

Because urban centers tend to be more racially and ethnically diverse, the over-representation of suburban and rural areas means the underrepresentation of racial minorities (Sanchez, 2006). The data collected on the Houston-Galveston Area Council for this study showed that only 17% of non-white residents were represented by non-white members (Sanchez, 2006). The literature and data evidence "suggests that in many metropolitan areas, current MPO boards are not structured adequately to represent the interests of central city residents" (Sanchez, 2006, p. 7).

3. Theoretical framework

Social and political power has been the topic of inquiry for many influential thinkers in the social sciences. They often tackle questions such as "What is power? Where does power come from? How can we understand shifts in power? Etc." This study will use both Steven Lukes' conceptualization of power and the *powercube* framework based heavily on Lukes' ideas to understand power.

3.1 Three dimensions of power

Lukes' contribution to the field of power inquiry has given researchers a way of understanding political power as multi-dimensional, with the different types of power operating simultaneously in policy making decisions. An analysis of power in policy making can allow the researcher to break down why certain policy decisions are made and therefore what can be done to challenge power dynamics and change policy making processes.

In *Power: A Radical View* Lukes describes three dimensions of power. This framework provides a way of studying power relations that takes into account multiple perspectives on power, and ways in which power and domination manifest. Luke's first dimension of power is based on a Dahlsian conception of power. This defines power as the ability to make decisions about actions and consequences for others. As in actor A has the ability to determine the actions of actor B. Lukes suggests that is a relatively simple and explicit form of power, one that is known and visible, and therefore easily identified (Lukes, 2004).

In order to understand the second dimension of power Lukes (2004) draws on works by Bachrach and Baratz who argue that power is not only the ability to determine the actions of someone else - but is also the ability to control the list of choices or agenda that those actions are then based on. This ability to indirectly make decisions by allowing certain items to be discussed and leaving others off the list ensures that dominant groups are able to keep power by avoiding contentious issues that could potentially threaten their social standing.

In *Power: A Radical View*, Lukes (2004) adds his own third dimension to this, referred to as discursive power. Lukes (2004) posits that power is deeper and more insidious than previous conceptualizations of power, and that it operates on an ideological and psychological level in which choices are not only kept from actors, but that cultural beliefs and truths have ensured that certain possibilities are not even considered. Those that hold power in this dimension are able to shape these norms and values in order to promote their interests, and therefore are able to maintain their position as part of the dominant culture.

All three forms of power exist simultaneously, and are impacted by each other and so it is through an understanding of the manifestations of power that we are able to map why certain policy decisions are made. This theory of power is particularly useful in determining why and how certain actors are able to decide “what is known, what is emphasized and what prevails” (Brisbois & de Loë, 2016).

3.2 “Powercube”

Based on Luke’s theory of power, John Gaventa (2006) expanded the understanding of power to be more applicable to governance questions in a framework titled the “Powercube” (Gaventa, 2006). The powercube adds the dimensions of “space” and “level” to the existing three “forms” of power. Because each of these dimensions contain three components they come together in a framework that resembles a Rubik’s cube, as pictured in figure 1. Lukes’ forms of power are renamed as “visible,” “hidden” and “invisible” (1,2 and 3 respectively).

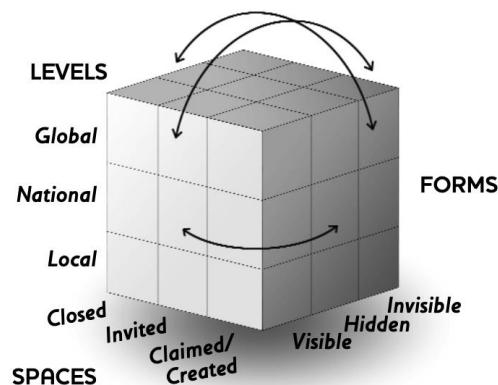


Figure 1 - “Powercube” Framework (Gaventa, 2006)

The dimension of “space” is used to understand how the spaces in which policies are being made are structured, and how much access is available to these spaces. The three parts of this dimension are “closed,” “invited” and “claimed/created”. Closed spaces are spaces in which decisions occur behind closed doors, invited spaces are spaces that have opened the doors to non-traditional participants, and created spaces are spaces that are often created by the less powerful in an effort to unify in a specific ideological or policy pursuit. The categorization of spaces allows for the researcher to understand how power is impacted by how the space in which decisions are made operates, and who is even initially allowed to join that space.

The dimension titled “levels” is an especially important dimension in governance research as it gives an idea of where and for whom decisions on policy are made. In the research at hand which concerns a regional body, the categorization of “local” fits well. However, that does not mean that there are not national and global dynamics that factor into how the local level operates. That is perhaps the crux of the powercube framework, which is that it is not static - but reactive to externalities and perspective. Gaventa intended this framework to be used as a way to analyze power and uncover avenues through which this power could be challenged (Gaventa, 2006).

The powercube framework has since been used to analyze different governance and policy issues worldwide, and a review of this work done by IDS found that there were three ways in which this framework could be used to uncover power relations. This study will follow previous studies in performing a “context analysis” to understand the power context in which H-GAC transportation decisions are made. Many who have performed this type of analysis look inside the spaces and ask questions such as “Who is able to participate? Who decides who participates? And what forms of knowledge are legitimized inside those spaces? (Pantazidou, 2012, p. 11), which then can assist in explaining the “why” behind policy outcomes.

3.3 Discourse, power and policy making

Policy making is at its core the transformation of ideas into a final textual product, written and communicated to an external audience as a directive or path forward. Discourse refers to the way in which language both shapes and is shaped by the context in which it exists. It views language as a social practice in which language constructs meaning. Discourse analysis is especially suited to accompany inquiries that are interested in power and ideology (Jorgensen and Philips, 2002, 3). Although discourse analysis is a commonly used method in the social sciences, it is inextricably linked to theoretical debate on the scope and profundity of discursive practices. Laclau and Mouffe examine the network of ideological discourses - not just text, which positions them perfectly to examine the policy process, noting that “for Laclau and Mouffe, it is the political processes that are the most important” (Jorgensen and Philips, 2002). Laclau and Mouffe find the basis of their theory in the idea that reality appears objective and natural when it is not (Jorgensen and Philips, 2002). The foundation of their theory is that “we construct objectivity through the discursive production of meaning”(Jørgensen & Phillips, 2002) .

This research follows more closely theory on discourse and power as presented by Michele Foucault, who we can credit with the sentiment that “discourse transmits and produces power; it reinforces it, but also undermines and exposes it, renders it fragile and makes it possible to thwart’ (Foucault, 1998, 101). Foucault argues that history is divided into periods where a dominant episteme is present. The epistemes indicate the boundaries in the ways people think and allow them to conceive the knowledge of “truths” as naturally given and objective. These dominant forms of knowledge set a discourse which exercises power upon people. The relationship between power and knowledge comes together in what Foucault refers to as “regimes of truth.”

In his later work, Foucault recenters agents in his thinking. Whereas his previous work perceived actors as marionettes of the discourse, unable to wield any agency outside of the dominant ideology, his later work understood actors as capable of making their own judgments by deciding to follow or resist the dominant discourse. This resistance he called “counter discourse”, essentially allowing actors who are lacking power within existing discourses to use knowledge to produce new ones and utilize it for their own purposes (Inglis & Thorpe, 2012). This power imbued within the dominant discourse, according to Foucault, is positive in that “power produces; it produces reality; it produces domains of objects and rituals of truth” (Foucault, 2012, p. 183). Counter discourse is also a positive creation of dominant discourse. However, when examining the policy process it is important to keep in mind that power within discourse is constructive, and therefore has the ability to produce and reinforce inequities between actors, but also has the ability to be “thwarted” by the rise of a new episteme and counter-discourse.

This power, according to Foucault, is everywhere, it permeates through every interaction and every utterance (Foucault, 1988). Discourse “transmits and produces power” (Foucault, 1998, p. 100). In this way, discourse is not merely the utterances, but “a complex set of competing ideas and values all of which are actualized in our everyday practices” (Jacobs, 2006, p. 44). Gaventa gravitates towards Foucault’s understanding of discourse and power - referring to invisible power as “discursive power.” He asserts that “rather than wielding power, subjects are discursively constituted through power; their actions may contribute to the operation of power” (Gaventa, 2003, p. 1). Meaning that power is imbued to subjects through discursive practice, but that their actions can contribute to the maintenance of that same power, again allocating some agency.

In *Discourse of Rurality in European Spatial Policy* (2000) Tim Richardson uses Foucauldian discourse analysis to understand the way that rurality is constructed in the field of spatial policy in Europe. He distinguishes his use of Foucauldian discourse analysis from other approaches to discourse analysis - namely, stating that the Foucauldian perspective allows for the conceptualization of discourse as a “complex entity of contingent thought, strategy and value, given shape by the relations between power and knowledge, and played out in language and practice” (Richardson, 2000, p. 54). In his analysis, Richardson found that the ESDP (European Spatial Development Policy) was “grounded in the rationality of the market” (2000, p. 59), and therefore understood the rural and urban divide by their relationship to economic growth and access to economic power. This defining of spatial regions “may increasingly regulate the allocation of resources” (Richardson, 2000, p. 67). That is to say, that the dominant discourse and the way that it defines spaces and people can dictate how resources are allocated or how policy implementation will occur. It is this type of Foucauldian discourse analysis that this research will utilize in combination with the powercube framework in order to best identify what Lukes (2021) refers to as “discursive power” and what Gaventa renames invisible power.

3.3 Conceptual framework

This research will use the powercube framework as the basis for answering the research questions. This is because “The power cube is meant to be an analytical device that can be used

to reflect on the nature of power relations and on strategies necessary to challenge and potentially transform them” (Andreassen & Crawford, 2013, p. 12). The H-GAC TPC has been classified as a local invited space. However, because “really transformative change occurs...when social actors (eg.movements, civil society organizations, donors) work across all aspects of the cube” (Gaventa, 2020, p. 8), and the aim of this research is to find ways in which community organizations can initiate change, all aspects of the cube will be considered during the analysis. The analysis will focus on identifying the ways in which the different forms of power operate within this space, and through an understanding of these, identifying avenues through which community organizations who are advocating for environmentally just transportation reform can assert power within the space.

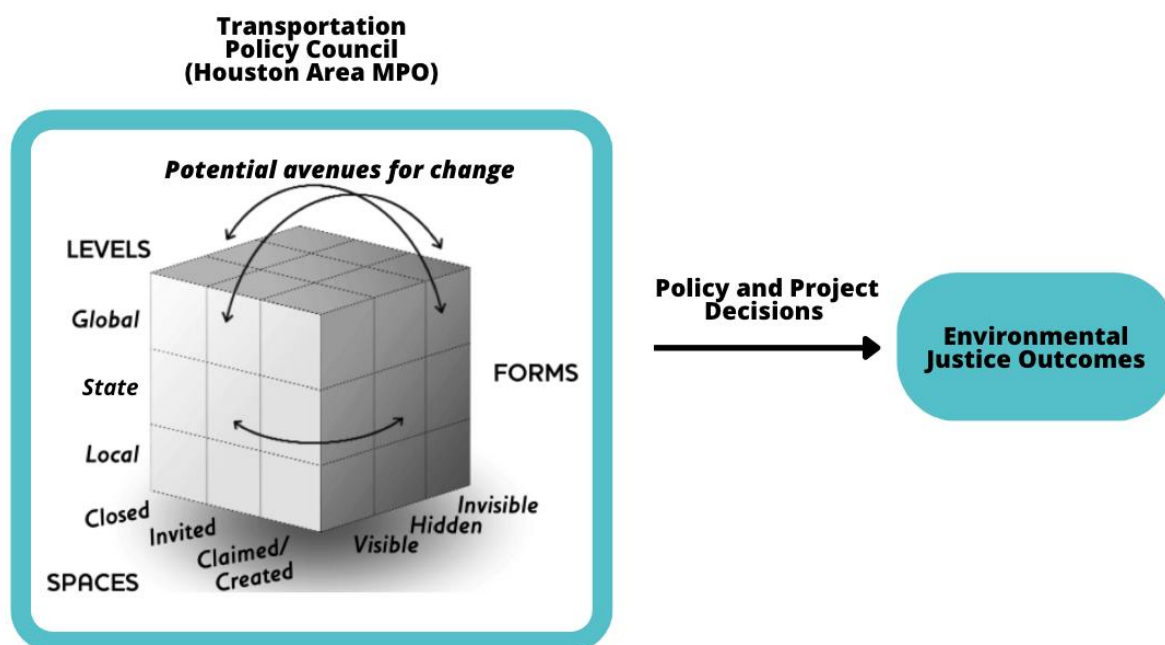


Figure 2 - Conceptual framework

In figure 2 the conceptual framework for this research is depicted. The research will focus specifically on the way that power operates within and affects the decisions made by the Transportation Policy Council, and will use the powercube as a way to understand these operations of power. The curved arrows represent the dynamism of the framework. Showing that, like a rubix cube, factors can be shifted and new pathways for power to be challenged made. These dynamics then lead to policy and project decisions which will have either positive or negative environmental justice outcomes.

The H-GAC TPC as Invited Space

Invited spaces, like the H-GAC, which, through public meetings, allowance for public comment, and collaboration with non-governmental entities, operates as an invited space, therefore also has the potential to engage in exclusionary practices hidden by a facade of inclusionary language that is often associated with invited spaces. As Gaventa (2020) points out “invited spaces, in particular,

may give the appearance of greater voice engagement, but forms of *hidden* and *invisible* power may simply mean that even in these spaces, voices become echoes of what powerful actors want to hear” (p.12). These spaces thus become places created by the powerful (in this case the voting members of the TPC) that maintain their power. However, “studies of various campaigns and struggles reveal the capacity of relatively powerless groups to use their agency to subvert” (Gaventa, 2020, p. 13) the power imbalance. Meaning that there is the possibility for stakeholders who have historically not been able to exercise as much power over policy decisions to express their own power in acts of resistance to the domination held by those in traditional positions of power.

Forms of Power within the H-GAC TPC

Visible power will be reflected in the formal rules, structures for decision making, and authorities in decision making. This will require a review of who are the key decision makers within the TPC, who and what is given power by the bylaws that govern the decision making processes, as well as who participates in that process.

Identifying *Hidden power* will require an understanding of the processes and players involved in setting the TPC agenda. As this study is looking specifically at the H-GAC and TPC as an invited space, a key factor in this research will be identifying who decides who is invited to the space. This will include consideration of which individuals or organizations are invited to participate in the policy planning process, and which are notably excluded, and who within the TPC they are championed by.

In order to identify visible and hidden power between actors, this research will be guided by indicators provided by Balane et al, 2020 in a literature review on stakeholder power. In the context of relationships between stakeholders, power has been defined as “the stakeholders ability to influence policy” (Balane et al., 2020, 5) or “the distribution of authority in a system” (Balane et al, 2020), which can be further categorized into domains of power. Through a review of literature on stakeholder analysis Balane et al. identified domains of power commonly used.. The domains identified that are relevant to a Powercube analysis are listed in Figure 3 and will be used to guide analysis.

In order to understand the way that power operates within the H-GAC TPC, it is imperative that this study identify who the key stakeholders in the policy making process are. Stakeholder analysis has been identified as compatible with analysis that uses the Powercube framework as a stakeholder power analysis will provide an overview of who is relevant to the policy making process, and will take into account institutional positioning, resources, and respective interests that will aid in uncovering dynamics of power and domination. Because this analysis will look at a particular policy making space, the TPC of the H-GAC, which has been identified as a local invited space, the stakeholder identification will clarify the questions of who is invited to participate, who are the gatekeepers of the space, and by extension what forms of knowledge are found to be relevant to decision making within the space (Pantazidou, 2012).

In order to identify key stakeholders and the power and influence that have over the policy making process - I will conduct interviews with relevant actors as identified both by official documents from the H-GAC and from media coverage of H-GAC processes. The initial interviews will then provide me with information on other relevant actors who I will then interview as well, allowing for a snowballing of information. In order to have a triangulation of data which is important for stakeholder analysis (Balane et al, 2020).

Although stakeholder analysis can be challenging when it comes to analyzing policy making practices, because there is a high probability that relevant stakeholders shift over time (Balane et al, 2020) the identification of the manifestations of hidden power will provide a foundation of beliefs and values which are less likely to shift as regularly. This stakeholder analysis will be integrated with the powercube analysis.

Invisible power encompasses the beliefs that govern the policy making process and the values that shape the committee's status quo. In order to identify these values and beliefs, the analysis will examine the discursive nature of the process. This aligns with Gaventa's own understanding of invisible power which he also refers to as "discursive power." This research will look at the ways in which language used by those engaging in policy making, and experts on the H-GAC policy making process, conveys these values and beliefs in what Foucault would refer to as "regimes of truth," or truths that appear to be universally accepted by those who are engaged in policy making. The use of discourse theory to understand power will include particular attention to the way that knowledge and power interact within the policy making process. Through an understanding of these truths, we will be able to determine who these truths benefit, who they are most often deployed by and for what reason. Foucault's idea that through an evaluation of discourse, and the identification of power, the dynamics then become easier to "thwart" (Foucault, 1988), aligns with the aim of this research.

Potential Indicators for Power

Visible	Hidden	Invisible
Decision making	Ability to place issues on the agenda	Technical/professional knowledge/skills
Political/influential position	Ability to control who is invited to the space	Normative: symbolic influences
Financial power/money		Benefit from status quo
Legal mandate		Possession of privileges
Legislative power for policy approval		Wield power based on values

Influence over policy outcomes		
Attribution of power (actor's power as perceived by themselves and others)		
Ability to mobilize on the issue		
Connection to influential stakeholders		
Voting power/influence over voter		
Ownership/control of resources		
Willingness to engage in policy discussions		
Involvement in policy formulation		

Figure 3 - Potential Indicators for Stakeholder Power (adapted from Balane et al, 2020; and Gaventa, 2006).

4. Methodology

The methodology employed in this research will ensure that the research is both valid and reliable and will be compatible with the research aim and theoretical framework. In order to best map out the methodology for this research, the “research onion” or “layers of research design” model as identified by Saunders & Tosey (2012) will be employed. This model first asks the researcher to identify the philosophical perspective of the research which will be done briefly in the first section. The next layer encompasses the methodical choice of this research, followed by research strategy and time horizon. Finally, within the “core” of the onion is data collection and data analysis, which will be elaborated on in the final section of this chapter.

4.1 Research philosophy

Saunders and Tosey define research philosophy as “how a researcher views the world, her or his taken-for-granted assumptions about human knowledge and about the nature of the realities encountered” (2012, p. 58). That is to say, the philosophy of a piece of research relies on what the researcher accepts as the truth about reality and how knowledge comes to be (ontology and epistemology respectively). Because power is an individual experience, especially when understanding power not only between actors but between structures and actors - there will not

be one single universal experience of this power. Each individual will create his or her own version of this reality. This falls into the ontological definition of relativism which among other things concedes that “at different times and in different places there have been divergent interpretations of the same phenomena” (Moon & Blackman, 2014, p. 1173). The methods used in this research will attempt to weave together these interpretations of reality to come to an understanding of how power operates with the space in question.

The focus on power within this research, as well the acknowledged relationship between power and justice that is core to the question at hand, fits into the definition of critical theory. In their definition “critical theory aims to challenge, reveal conflict and oppression, and bring about change” (Moon & Blackman, 2014, p. 1164). This research aims to: challenge the assumption that the transportation policy making processes within the TPC are innate, reveal conflict and oppression within this process as a result of power imbalances, and to effectively encounter avenues through which community groups can establish power and shift the environmentally and socially harmful status-quo of transportation policy in the region. In collaboration with a local non-governmental organization working to ensure equitable transportation policy in the Houston-Galveston area, this study will aim to “develop effective governance structures to enable sustainable livelihoods in [the affected] communities” (Moon & Blackman, 2014, p 1174).

4.2 Research strategy: case study

According to Sauters et al (2019), strategies should be “a plan of how a researcher will go about answering her or his research questions” (p. 189). Because this research is explanatory in nature, relying on the use of how and why questions, this study favors the case study as a method (Yin, 2014, p. 11). Gerring (2004) defines a case study as “an intensive study of a single unit for the purpose of understanding a larger class of (similar units)” (p. 342). However, Stake (1995) differentiates between intrinsic and instrumental cases. An intrinsic case study he defines in these terms: “we are interested in it, not because by studying it we learn about other cases or about some general problem, but because we need to learn about that particular case” (p. 3). The definition he provides of an instrumental case study more closely aligns with Gerring (2004), which is given as “the use of case study [to] understand something else” (p.3). This research constitutes an intrinsic case study (Stake, 1995), while it may be that the data collected and analyzed may be relevant to other similar cases, the purpose of this study is learn specifically about the way that power within the TPC and H-GAC function. This study follows in the footsteps of other scholars who have examined power in policy making using in depth case study (Cook, 2015; Brisbois & De Loe, 2016). The two projects outlined below have been identified as key projects, and were referenced multiple times throughout the interview process and will therefore be outlined as part of the case introduction, and will be illustrated here as embedded key units (illustrated in Figure 4). Since the observational data was collected during meetings that concerned these two projects, they will be used in order to draw conclusions about the power dynamics within the TPC. The selection of the two units of analysis was done in order to provide the research with clear spatial and temporal boundaries for data collection (Yin, 2014).

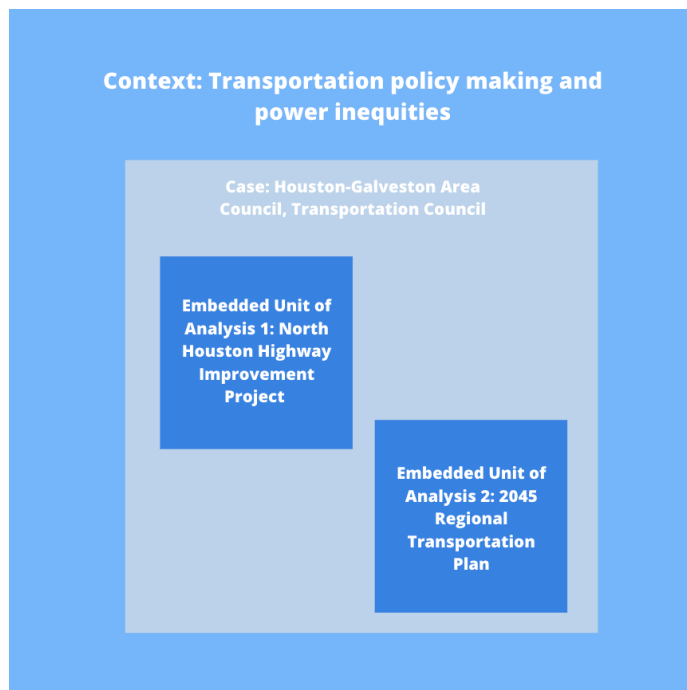


Figure 4 (adapted from Yin (2014) “Basic Types of of Designs for Case Study Research”)

4.3 Case selection and sampling method

This research is being conducted in collaboration with Air Alliance Houston (AAH) a Houston based non-profit “working to reduce the health impacts from air pollution and advance environmental justice” (airalliancehou, n.d.). The transportation program of AHH works to advance this mission through campaigns to redirect transportation planning in the region to improve air quality and address climate change (airalliancehou, n.d.). This includes research work, grassroots engagement, collaborations with local and regional policy bodies (including the HGAC, COH and HC), as well as legislative advocacy at the state level. AAH engages with the region's MPO (the H-GAC TPC) in various capacities. They have engaged in public comment as advocates for the public and have held seats on several subcommittees (however these seats are not permanent). The selection of the H-GAC as the MPO to study is based on the location of AAH and the aim of this research which is to assist organizations like AAH in building strategies to advocate successfully for environmentally just policy.

Potential interviewees were selected with a focus on perspective on the TPC process. Therefore, it was imperative that there was diversity within the positions that these interviewees hold and the roles that they play within the process. In addition, a “snowballing” technique has been used in order to combat limitations of knowledge of the process and space, and the researchers initial access to certain actors.

4.4 Methodical choice

In this research I will use qualitative methods which align with the choice of a case study as, “case study research is often described as a qualitative inquiry” (Harrison et al., 2017, p. 8). This research will be conducted using a multimethod qualitative approach, meaning that “more than one qualitative data collection technique [will be] used” (Saunders and Tosey, 2012, p. 59). According to Harrison et al (2017), “the use of multiple methods to collect and analyze data are encouraged to provide a more synergistic and comprehensive view of the issue being studied” (p. 12). This approach was chosen as this research will utilize three methods in order to obtain data which are: semi-structured interviews, desk research and observation. Desk research will consist of documents that provide information on the formal structure and rules of the TPC following Stake’s (1995) suggestion that “the potential usefulness of different documents [be] estimated in advance” (p. 68).

The semi-structured interviews were with individuals who have experience with and knowledge of TPC structures and procedures specifically related to the two cases that will be considered within this study. Expert interviews and knowledge lie “at the center of the case study as research” (Flyvbjerg et al., 2001), p. 2002) as context dependent knowledge is what drives the case study. Potential interviewees were selected with a focus on perspective on the TPC process. Therefore, it was imperative that there was diversity within the positions that these interviewees hold and the roles which they play within the TPC process. In addition a “snowballing” technique was used in order to combat limitations of knowledge of the process, and initial access to certain actors.

The first interview conducted was with a former H-GAC staff member who worked on transportation planning within the H-GAC - this person interacted regularly with TPC members and was involved in meetings as a staff member as well as as the organizer of the Pedestrian and Bicycle Subcommittee. The second interviewee, who was mentioned as potential interviewee by the first interviewee, also worked as a transportation staff member at the H-GAC and had worked with other MPO’s previously. This interviewee gave updates on resiliency work to the TPC quarterly. They now work in transportation advocacy and have a relationship with the TPC through that work as well. The third interviewee is transportation policy advocate for an air quality NGO and has given public comment to the TPC as well as served on various subcommittees including the TAC, RTP subcommittee and air quality subcommittee. This interviewee provided an introduction to the fourth interviewee. The fourth interviewee is a voting member of the TPC and has been affiliated with the H-GAC since the early 1990’s. They were the chair of the TAC committee in the mid 2000’s and became a voting member of the TPC in 2018. Attempts were made to reach other interviewees including other voting members and members of TXDOT - however either no response was received or the response was negative. Information from the interviews and documents will then be used to guide the observation.

The observational data collected will be of TPC or TPC subcommittee meetings that those interviewed have identified as relevant. This will assist with the triangulation of data, as it will allow for the verification or supplementation of information gained from the interviews (Kawulich, 2022). The observations will be conducted virtually and retroactively through the use of video recordings. The meetings were livestreamed and recorded, and the videotaped recordings are available to be viewed by the public. Collecting observational data using video recordings has multiple

advantages, it is dense in data in that the ability to watch and rewatch allows the researcher to collect more data, it is also permanent which increases the reliability of the data collection (Morse, 1994) allowing for replication of observation. Observation through video recordings enables the researcher to act as a complete observer, observing the situation without the participants knowledge that they are being observed (Kawulich, 2022).

4.4 Data analysis

After the data were gathered, transcripts of the interviews as well as observational notes were uploaded to Atlas.ti and coded with reference to theory and conceptual framework. The data analysis process is a mix between inductive and deductive, with the use of the powercube framework and power theory to guide the process of collection and analysis, and the building of a new understanding of how this power may operate based on the data collected.

First, open coding was conducted in order to separate the data into quotation units and identify them with specific concepts and categories. During this step of the coding process, memos and comments were used to keep track of potential connections or insights gained from an initial review of the data. Second, the axial coding process was then used to start to create higher-order categories, based on the indicators outlined in the operationalization. This included beginning to identify certain codes with specific aspects of the powercube framework and forms of power. This then set the stage for selective coding, whereby core categories were selected to include in the findings of this research based on their relationship to the theory and their demonstrated importance within the data.

4.5 Validity and reliability of the research

The concepts of validity and reliability in research stem from the early scientific reliance on quantitative methods (Kirk & Miller, 1986), however these concepts are important to consider in qualitative research as well. Kirk and Miller (1986) define these concepts simply; “loosely speaking, “reliability” is the extent to which a measurement procedure yields the same answer however and whenever it is carried out; “validity” is the extent to which it gives the correct answer” (Kirk and Miller, 1986, p. 18). In order to increase reliability in this research the methods and operationalization of theory have been outlined in detail. The interview guide used to conduct the semi structured interviews was also added to the appendix in order to provide transparency into the data collection process. Often an issue with reliability when it comes to observational data is that it is not possible for observation to be replicated exactly. However, in this research the observation was done on meetings that have been recorded and posted to the H-GAC website, allowing for future researchers to access the same data used in this research. As for validity, this research was guided by previous literature and utilized diverse forms of data collection to ensure triangulation of data, or the cross referencing of varying data sources to ensure that the truest picture possible is painted.

5. Analysis

The analysis below will be split up into four subsections. The first will introduce the case, and will map key stakeholders in a stakeholder power map. The following three will be: 'power in levels', 'power in an invited space' and 'understanding the status quo.' All three of these sections will help map the manifestations of power within the TPC on the powercube framework. With the sections on levels and spaces, all three forms of power will be discussed - however, these will mostly focus on visible and hidden power. The final section on the nature of the status quo of the TPC - will delve more deeply into understanding how discursive power and invisible power manifest within the process. These have less to do with how subjects act or are acted upon by other subjects - but how power can produce reality, as well as how power may become constructed through a specific discursive practice, and how that may benefit some people and ideas, while leaving others completely off the table.

5.1 Case introductions

5.1.1 Houston-Galveston Area Council

The Houston-Galveston Area Council (H-GAC) is the Council of Governments (COG) for the Houston-Galveston area. COG's in the state of Texas were established in 1965 under the Regional Planning Act, and are defined as "voluntary organization[s] of local governmental entities that coordinate programs and services to address needs that cross jurisdictional boundaries" ("Regional Councils," n.d.). The H-GAC represents a 13 county region which includes: Harris, Galveston, Brazoria, Chambers, Fort Bend, Waller, Montgomery, Austin, Colorado, Matagorda, Walker, Wharton and Liberty, which covers an area of 13,926 square miles and a population of 6,765,337 ("Regional Councils," n.d.). The majority of the population represented in this council resides in Harris County which contains approximately 4.5 million residents.

A main operation of the H-GAC is to serve as the region's MPO. Although MPO's can exist independently or as parts of regional departments of transportation they "generally operate as a function of regional councils of governments" (Sanchez, 2006). In the case of the H-GAC the MPO is referred to as the Transportation Policy Council, which only consists of representatives from eight counties (Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery and Waller) and they are tasked with approving the Regional Transportation Plan (RTP) and the Transportation Improvement Program (TIP). Developing the RTP is one of the main functions of the TPC. The RTP is a 25 year plan that is updated every four years. The updates follow the initial planning outlines but include shorter term projects and new funding. These short term projects are part of the TIP. According to the H-GAC website:

"projects selected for the TIP are always priorities in the region in all surface transportation areas including transit, roadways and highways, bicycle and pedestrian, preventative maintenance, rehabilitation and transportation operations" (*Transportation Improvement Program | Houston-Galveston Area Council (H-GAC)*, n.d.).

These projects are chosen through a process called the “TIP Call for Projects.” The projects are allowed to be submitted by “state and local government, public transit providers, and public ports” (2018 Call for Projects | Houston-Galveston Area Council (H-GAC), n.d.). Other entities are allowed to submit project proposals, but only with “support from the owner of the asset or general purpose local government” (2018 Call for Projects | Houston-Galveston Area Council (H-GAC), n.d.). These projects must be located within the jurisdiction of the TPC and meet funding requirements. The TIP call for projects occurs approximately every two years - the TPC then reviews the project submissions along with comments and input from the related subcommittees and finally votes in order to either accept or deny the implementation of the project.



Figure 5 - Map of H-GAC jurisdiction with MPO jurisdiction highlighted in yellow (About Houston-Galveston Area Council | Engage HGAC, n.d.)

The voting members on the TPC are not just representatives from these counties, and each county is not given the same amount of votes. Figure 6 outlines the voting membership of the TPC and the amount of votes allocated to each member. There are 28 members on the TPC currently, seven of which are non-white men, six of which of women and of those six, five are women of color (Transportation Policy Council Members | Houston-Galveston Area Council (H-GAC), n.d.). To synthesize: 57% of the board is represented by white people, 78% of the board is men. Sanchez (2006) found that the H-GAC is made of 24% urban representation 52% suburban representation and 24% other.

The City and County members are represented on the TPC by elected officials from those jurisdictions. These members could be mayors, public works directors, council members, judges etc. They are selected by their city or county as representatives to the MPO. There are also seats

allocated to public and private entities that were identified as key stakeholders. These are the Metropolitan Transit Authority of Harris County (METRO), TXDOT, H-GAC, the Gulf Coast Rail District, and one seat for “Other Transportation Interests.” METRO is the public transportation agency that operates within the City of Houston and Harris County. They are in charge of bus services and the passenger light rail. They are also in charge of the high occupancy vehicle lanes and toll lanes on county highways (METRO,webmaster@ridemetro.org, n.d.). TXDOT - the Texas Department of Transportation represents the State of Texas on the TPC.

VOTING MEMBERSHIP	
City of Baytown.....	1
City of Conroe	1
City of Galveston.....	1
City of Houston	3
City of League City	1
City of Missouri City.....	1
City of Pasadena	1
City of Pearland	1
City of Sugar Land	1
City of Texas City.....	1
County of Brazoria	1
County of Chambers.....	1
County of Fort Bend.....	1
County of Galveston.....	1
County of Harris	2
County of Liberty	1
County of Montgomery	1
County of Waller	1
Metropolitan Transit Authority	1
Texas Department of Transportation.....	2
Houston-Galveston Area Council	1
At-large city appointee by H-GAC for Harris County or designated city	1
Other Transportation Interests appointee by the TPC.....	1
Gulf Coast Rail District.....	1
 TOTAL	 28

Figure 6 - Voting membership of TPC

Although only the voting members of the TPC are able to pass policy, there are various subcommittees that contribute to the work being done within the TPC. Some of the most relevant to this research are the RTP subcommittee, the TAC, and the TIP subcommittee. The TAC “reviews and evaluates H-GAC’s regional transportation plan and provides its recommendations to the TPC ” (*Transportation Advisory Committee | Houston-Galveston Area Council (H-GAC)*, n.d.-a). The membership of the TAC is appointed by the TPC through a nominating and approval process and consists of “representatives from member governments and special citizen interest groups with expertise in transportation planning” (*Transportation Advisory Committee | Houston-Galveston Area Council (H-GAC)*, n.d.-a). All subcommittees have the same basis for representation and are subject to an annual nominations and approval process - either by members of the TPC or of the TAC depending on the committee in question.

Below is a map of the governance structures related to TPC decision making. The arrow represents the relationship between the different institutions. One direction arrows indicate that there is a hierarchy, and that one is subject to the rules of the other. The double sided arrows represent a more lateral and reciprocal relationship.

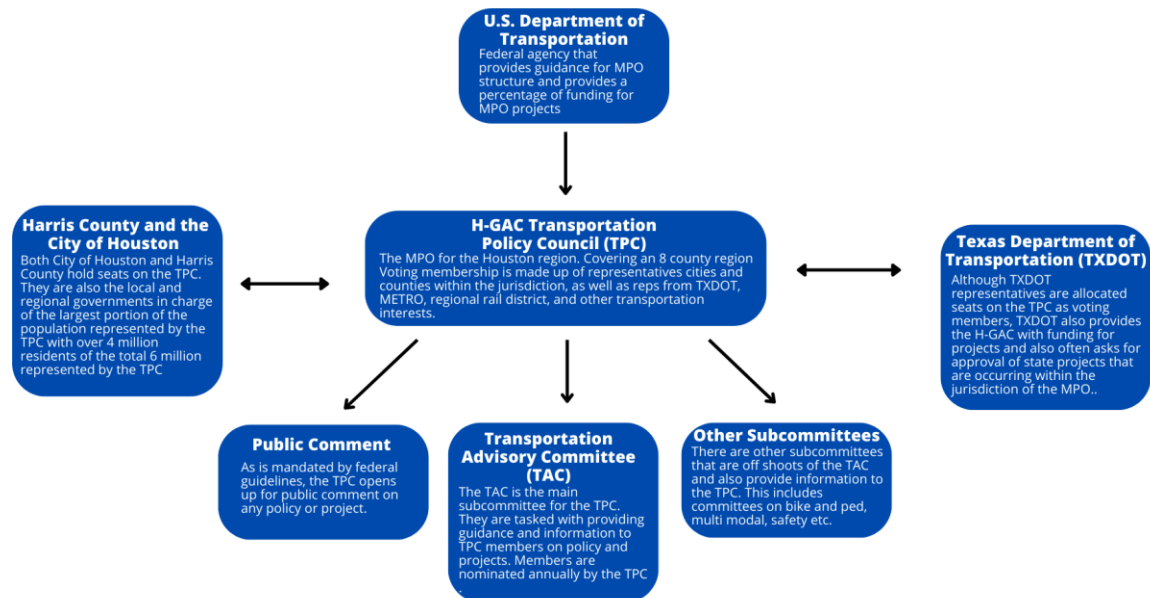


Figure 7 - Map of governance structure of the TPC.

5.1.2 North Houston Highway Improvement Project

Houston is the fourth largest city in the United States and the city is connected almost entirely by highways. The North Houston Highway Improvement Project (hereafter referred to as NHHIP) is a controversial new infrastructure project that falls under the jurisdiction of the H-GAC TPC. The segments of the NHHIP that fall within the council's jurisdiction were submitted by the Texas Department of Transportation in a TIP Call for Projects and were greenlit by the council. This project would add four lanes to the I-45 highway in Houston, and includes “the reconstruction of existing interstate lanes along with certain frontage roads and the addition of a few non-motorized elements” (“Building Infrastructure That Supports Opportunity, Equity, and Sustainability,” n.d.). This project has been chosen as a unit of analysis because of the publicity it has attracted, which has resulted in increased press coverage. The project has come under scrutiny from various environmental and social justice movement organizations who cite the negative environmental and community impacts of the project as unjust. The organizations that are attempting to halt the project as proposed consist of environmental justice organizations (Air Alliance Houston, Sunrise Movement HTX, One Breath Partnership), transportation justice organizations (LINK Houston, Stop TXDOT I-45) and racial justice organizations (Black Lives Matter Houston, Say Her Name HTX, Our Afrikan Family). The involvement of these racial justice organizations is spurred by the

fact that negative impacts of the NHHIP will fall heavily on communities of color. The construction will be happening in an area with a large minority population - while providing little to no benefit for these communities.

The primary concerns raised were that air quality would worsen due to exhaust from the increased number of cars on the road, increased carbon emissions, displacement of residents, disruption of widely used downtown METRO services during the 10+ years of construction, and increased risk of flooding.

The displacement impacts of the NHHIP are not insignificant. The project would “result in the taking of 160 single family homes and 919 multifamily home, including 486 public or low-income multifamily residence” (“Building Infrastructure That Supports Opportunity, Equity, and Sustainability,” n.d.). The project would also displace 344 businesses, five places of worship, and two schools. The construction of the highway is set to have drastic effects on the community, with little demonstrated benefit to that same community (“Building Infrastructure That Supports Opportunity, Equity, and Sustainability,” n.d.).

In December of 2021 a coalition of these organizations filed a civil rights complaint under Title VI of the Civil Rights Act which “prohibits discrimination on the basis of race, color, or national origin in any program” (*Legal Highlight: The Civil Rights Act of 1964 | U.S. Department of Labor*, n.d.). This filing led to the U.S. Department of Transportation's Federal Highway Administration to halt the project because of the “potential issues tied to Title VI of the civil rights act and related environmental justice concerns” (“Building Infrastructure That Supports Opportunity, Equity, and Sustainability,” n.d.).

Throughout this process the H-GAC has come under attack from community organizations and members for not including impacted communities in the planning process, and focussing instead on the economic interests of stakeholders who will financially benefit from this project including business representatives and construction companies (Jordan, 2021). Although the H-GAC has claimed that they have given community members the chance to participate in the planning process - the instruments they have used have been cited as inaccessible and inequitable by activists (Vasquez, 2021).

5.1.3 2045 Regional Transportation Plan

The second case that will be examined in the analysis is the policy process surrounding the 2045 Regional Transportation Plan (RTP). This case was selected because the deliberation and creation process for the plan occurred within the same years as the NHHIP, and therefore involved similar stakeholders and processes. The 2045 RTP is the long term proposed transportation plan for the counties that are incorporated in the H-GAC. It is described as representing “a coordinated effort to address the present transportation concerns and to prepare for the mobility needs of the future” (*Regional Transportation Plan | Houston-Galveston Area Council (H-GAC)*, n.d, p.1). The objectives of the plan are broken up into three categories which are defined as “manage, maintain,

and expand” (2045 Regional Transportation Plan, n.d., p. 2). These are then matched with long term goals including improving safety, maintaining a state of good repair, finding ways to move goods and people efficiently, strengthening regional economy, and conserving and protecting both natural and cultural resources (Houston-Galveston Area Council, n.d.). This plan is set to cost \$132 billion dollars which will come from federal, state and regional sources. The projects proposed include but are not limited to highway maintenance and expansion, high capacity transit, active transportation and general transport infrastructure maintenance (paving of roads and building of bridges etc.).

5.1.4 H-GAC and environmental justice

The Houston Galveston Area Council - like all other MPO's, is required to follow federal mandates on environmental justice - and ensure that projects are not specifically targeting EJ areas. This is because, as mentioned in the section on the NHHIP, environmental justice is protected under Title IV of the United States Constitution.

In 2017 the H-GAC released an Environmental Justice document entitled “H-GAC’s Strategy for Fair Treatment and Meaningful Involvement of all People.” The H-GAC has mapped out what they refer to as EJ zones. EJ zones are “defined as those census block-groups where the average number of persons within the protected class exceed the average for the MPO region” (*Environmental Justice: H-GAC’s Strategy for Fair Treatment and Meaningful Involvement of All People*, 2017, p. i). The protected class was named by the federal government as minority and low-income citizens. However the H-GAC has added five secondary indicators to expand the definition of EJ groups - these are: “limited English proficiency (LEP), senior status (65 years and over), limited educational attainment (LEA), carless households, and female head of household” (*Environmental Justice: H-GAC’s Strategy for Fair Treatment and Meaningful Involvement of All People*, 2017 p. ii). Around 25% of census black groups within the jurisdiction of the H-GAC are EJ zones - more than 80% of these are located in highly urbanized areas (Harris County and Houston) (*Environmental Justice: H-GAC’s Strategy for Fair Treatment and Meaningful Involvement of All People*, 2017) . The identification of these groups is important because “ a community with high disadvantage will be resilient to the challenges that accompany environmental disasters and social change” (*Environmental Justice: H-GAC’s Strategy for Fair Treatment and Meaningful Involvement of All People*, 2017, p. ii). When addressing environmental justice and transportation it states:

“An environmental justice concern is triggered where the burdens related to transportation plans, programs, and policies falls disproportionately on low-income or minority communities, or where these traditionally underserved and overburdened populations are not given a meaningful and fair opportunity to participate in the planning decision making process that has the potential to radically change their lives and living environment” (*Environmental Justice: H-GAC’s Strategy for Fair Treatment and Meaningful Involvement of All People*, 2017, p.4).

Indicating that the H-GAC understands that the way that the planning process is conducted is a part of combating environmental injustice in the area. If these groups are left out of the process, or they are denied power within the space to influence decisions then the results of the project will have a high chance of perpetuating environmental injustice. The following sections will review the power dynamics within the policy making process at the TPC to identify how power operates within the TPC, and determine whether or not these dynamics are set up to successfully address environmental justice (as is outlined in the EJ report) or if they are structured in a way that perpetuates environmental injustice.

5.2 Power in levels

In reviewing the data collected it became increasingly evident that in order to understand how decisions are made within the TPC, and why the TPC engages in the funding and approval of certain projects over others, it would be key to examine the role that state and local actors play in the decision making process. The TPC is a regional body that is an extension of the federal government, there are representatives from the Texas Department of Transportation that sit on the TPC as voting members, and the TPC represents the transportation planning of the fourth largest city in the US (Houston). In order to map the TPC on the power and levels axis on the powercube framework, the following section will give an analysis of the data collected as it relates to the levels.

5.2.1 City of Houston and Harris County

Considering visible power as the ability for player A to receive a desired outcome from player B, the City of Houston (COH) and Harris County (HC) were often cited as having an obvious amount of power over how the TPC votes, and were related to indicators, influential position, and financial power. Even elected officials from the COH who are not voting members of the TPC, namely the mayor of Houston (referred to during interviews as “the mayor” or “Mayor Turner”). One interviewee when asked about players outside of voting members who are influential said “Every now and then Mayor Turner will send a letter. And I’m assuming that’s because one of the COH TPC members talks to him” (Int. 2).

This was expanded on by another interviewee:

“HC and COH are listened to and considered major players....the population size of COH and HC are one of the primary reasons that the TPC receives the amount of funding for infrastructure projects that it does.... COG representatives will always be willing to come in and say, you know, Mayor Turner who isn’t on the TPC or in any of the subcommittees you know and doesn’t really play a direct role in HGAC structure. You know, he’s always willing to say well this is a priority for the COH and use that as sort of rhetorical cajole to advance whatever they’re trying to advance” (Int. 3).

This illustrates that visible power within the TPC is not only allocated to voting members, but can go beyond the official list of policy makers, staff and even subcommittee members. The TPC as a regional space, also experiences expressions of power from the smaller local level. Drawing on

financial and political levers allows the COH as well as HC to assert themselves as a major player within the TPC. Interviewee three cited a letter sent by the mayor of Houston on the NHHIP segments within the TPC jurisdiction in which he requests that TXDOT work with the city of Houston to address concerns on the project plans. The letter says “we [the city of Houston] have worked with all city departments, and partners at the county and METRO, to develop a design vision for the project” (Turner, 2020) The letter then goes on to outline these plans. After this, the TPC chair set up a working group with the COH, HC, METRO and TXDOT to address the concerns raised and come up with an alternative design (Int. 3).

5.2.2 TXDOT and Visible and Hidden Power

The Texas Department of Transportation, as discussed previously, is one of the only non-elected positions on the TPC, and is given two votes as opposed to the one vote relegated to most of the representatives. When asked about the top players within the decision making process a majority of the respondents mentioned TXDOT, saying that “TXDOT does not miss an opportunity to be part of the conversation” (Int 2). This was also evident during the observation process in which members of TXDOT were not only present as part of the voting membership, but also given agenda time to speak on the project that was set to be voted on.

The relationship between TXDOT and visible power was also evident in the repeated use of indicators ownership/control of resources and financial power/money. TXDOT received money from state and federal entities to conduct transportation infrastructure projects throughout the state, however, for many of the projects that lie within the jurisdiction of the H-GAC, TXDOT needs to receive approval from the TPC. This means that the HGAC can approve projects that will be financed by TXDOT that have the potential to improve mobility in the area, resulting in what is illustrated by one respondent as: “TXDOT given their role in how projects are financed and developed...they can use their power and authority over those funds to dictate policy” (Int 3).

The financial power exerted by TXDOT also feeds into the urban/rural divide that exists on the TPC, aligning them not with the desires of the majority of the population but with the majority of voters on the TPC.

“TXDOT is seen as a friend to a lot of these smaller communities. TXDOT invests in roadways in ways that these smaller communities really want. And you know TXDOT is one of the largest investors in building projects in the area and they work well with TXDOT” (Int 2).

This mandated power that is held by TXDOT is not just due to their access to finances and their voting membership, but their decisions are also reinforced by federal and state rule. This was then related to the indicator legal mandate and can be shown through this quote from a TPC voting member:

“One of the issues that has become particularly tricky is that so much of what the H-GAC and even TXDOT have to do are based on some codified rule. So it’s not just that TXDOT is saying this and the feds are saying that. It is that there’s a rule in the book that reads this way and in

many cases it's not just a matter of what you would desire to do, it's what you can or cannot do based on the rules" (Int 4).

Therefore, the visible power that is held by TXDOT both financially and legislatively is backed up by a legal foundation.

5.2.3 TXDOT invisible power

Much of what was said about TXDOT and the way that they operate within the TPC concerned knowledge and the way that TXDOT is able to set the status quo and maintain it using the knowledge that they are able to present to the TPC. This results in what one interviewee described as:

"a lot of deference to TXDOT because of who they are both in terms of experts on state and federal funding like I said they bring that knowledge and it's hard to speak out against it and at least call them out, because they're TXDOT and often they don't have it wrong"(Int 2).

TXDOT is providing expert data, and also a primary actor in overseeing the implementation of projects that utilize the information. They are therefore able to maintain the power imbued to them through knowledge throughout the planning process at the H-GAC. As put by one interviewee,

"Their sort of maintenance of a lot of the information that goes into project planning they have a very dominant role within the TPC and they dictate a lot of the direction of planning practices and values and things of that nature that go into not only long range planning but then have direct oversight over many" (Int 3).

This is also evident in reports released by the H-GAC in which data is either provided by TXDOT or in which the research was done in consultation with TXDOT. In one such document, *The 2016 Model Validation and Documentation Report (2016 Model Validation and Documentation Report, 2019)*, TXDOT is cited seven times either as a collaborator on research with the H-GAC or as the providers of data including traffic data and vehicle classification counts (*2016 Model Validation and Documentation Report, 2019*). A key factor of invisible power is that it is not evident to most observers or practitioners that their actions or beliefs are expressions of domination. In response to question unrelated to invisible power one interviewee succinctly summed up the way that TXDOT uses knowledge to control the space:

"I don't think the people at TXDOT believe that the work that they're doing is to like give a big fuck you to the city of Houston I think that they think that they're helping or have the the right ideas so I want to say that but also you know like TXDOT tries to get their way and their way is the way the they've been doing things so yea they'll weaponize their expertise at times" (Int 2).

This interviewee does not view the expertise given to the H-GAC by TXDOT as neutral, instead it is wielded in order as a tool to achieving an end goal. Weaponizing expertise in this case refers to TXDOT's ability to use their access to data and information on funding and processes to potentially influence decisions made by the TPC.

5.3 Power in an invited space

Through the interviews it became evident that there were actors outside of the voting members of the TPC, and unrelated to levels of power, that were key players in the decision-making process. The participation of these actors is related to the TPC as an invited space. These are people and organizations who have been invited to the space either through a legal mandate that allows them to participate based on a set of prescribed rules, as is the case with public comment, or through the subcommittee appointment and membership process.

5.3.1 Public comment as visible power

Public comment is mandated for MPO's nationwide in order to have a time in which members of the public are able to provide comments on any matter related to the work that the TPC engages in. Quotes on public comment were largely related to the indicators visible participation, influential position, and legal mandate.

"The Transportation Policy Council (TPC) encourages public comments on any and all matters relevant to regional transportation planning. To assure fair and equitable opportunities for all citizens desiring to address the TPC" (Houston-Galveston Area Council, 2013)

During public comment, members of the public are imbued with visible power in that they are able to raise questions about decisions made by the TPC, request transparency, and give their opinion on how the TPC should vote on a policy or project. The visible participation of the public in the decision making process through public comment puts it into the category of visible power.

Whether this expression of power is effective in influencing policy was a point brought up by multiple interviewees. A voting member of the TPC said of public comment:

"It is absolutely effective, and here's a sidebar that's important for you to know, my Ph. D. is actually in public policy and public admin, so I have a great respect for public policy and here's what I'll tell you about that, is that when people come to the table and ask for something, they want what they want. They don't necessarily recognize that them asking for what they want has pulled the process to the center, and, while they don't necessarily get exactly what they want, they don't get the other side which was really what they didn't want" (Int. 4)

Here, the voting member acknowledges that it may not seem as though the demands of the public are being met, but that they are still impacting the decision. This view was not shared by interviewees (Int. 1, 2, 3) who are not TPC voting members. The consensus among the other interviewees was that it is a procedural requirement, but not necessarily taken as a serious form of input by TPC members.

"So they have to do it by law and I think that there are times in which that's how the HGAC treats it as a check box - like we need to be able to offer public comment here as a requirement. I don't

think the HGAC takes it as seriously as they could, and sometimes treat it dismissively...they listen and then go about their day. I have never heard any TPC member, TAC member, or subcommittee member say in a discussion, 'remember that public comment from 20 minutes ago, this is why this is important to the discussion' - it's treated very much like 'this happens at the beginning and then we can get to our business' (Int 2).

In the experience of these actors, although public comment gives a visual of power— TPC members listening to members of the public— the power that is held by voting members supersedes the power held by the public. This was illustrated during a moment at the July 2019 TPC meeting during which a council member made a motion to approve the agenda item (in this case funding for the I-45 expansion) before public comment on the item had even begun. From observational notes:

"The council member moves to approve the funding. In the background you can hear murmuring from the audience, many of whom it turns out are there to speak on that exact item. Someone else on the TPC asks if it's appropriate for a motion to be called before public comment. The chair assures that the motion can be amended. Someone else on the TPC asserts that they would like to make a counter motion, but were waiting until after public comment. It does not seem like the issue is completely resolved. The chair moves on to public comment" (July 2019 meeting observational notes).

Calling for a vote on an agenda item before public comments stands to reinforce what was said by Int. 2 on the issue, which is that it does not sway policy makers who have already made up their mind on how they will vote. This was also evident in the amount of public comments that asked to delay the vote, versus the amount that asked the policy makers to approve the funding - and the final outcome. Throughout nearly five hours of public comment only 9% of the comments asked to approve the funding whereas the other 91% asked to delay the vote. At the end, the board voted to approve the funding. There are of course things that factor into this - how well one viewpoint was able to mobilize for this particular meeting, the quality of the comments etc, however, there is an astonishingly large discrepancy between what the public wanted and how the board voted.

5.3.2 Subcommittee's visible power

During all interviews, the TPC subcommittees were discussed, and all interviewees identified these subcommittees as places where influence is exercised on the policy making process by the members. These quotes were most often related to the indicators influential position, formal rules, and participation.

Members of the main TPC subcommittee the Transportation Advisory Council (TAC) were identified as especially influential over the policy making process. One interviewee described the way that the TAC operates:

“The TAC sees the information piece first, and then the TAC has a chance to vote on it so whomever is advising the TPC from their TAC position also then has a preliminary opportunity, a precursor opportunity, to advise a policy council member of whatever’s upcoming, how the TAC has voted on that issues, and whatever conversation is happening around the TAC about that issue. So that’s really important because the TAC is the people that really understand the nuts and bolts.” (Int. 4)

Although TAC members are not themselves able to vote on policy, they are able to influence decision makers within the scope of the formal rules of the TPC. That is because the role of the TAC is to “provide it’s recommendations to the Transportation Policy Council” (*Transportation Advisory Committee | Houston-Galveston Area Council (H-GAC)*, n.d.-b). The procedure is outlined in the TAC bylaws which clarifies that the TAC’s role is purely advisory and that any approval of plans rests only with the TPC (Houston Galveston Area Council, 2020). However, “the TPC may direct the TAC to present options for its consideration with accompanying recommendations and supporting rationale...on both technical and policy issues” (Houston Galveston Area Council, 2020). TAC meetings occur monthly, and during the meeting members discuss the technical and policy issues and then vote on how the committee will advise the TPC. For example, during the April 2022 meeting a transportation planner from the H-GAC staff presented potential amendments to the 2045 RTP and the TIP - after the presentation the chair of the TAC asked if any members wanted to comment or ask questions. Members of TAC then gave their input, a motion was made for approval which was carried - meaning that the TAC’s advice to the TPC would also be to approve these amendments when they come up for voting.

“The TAC is like the TPC’s little brother and the TIP subcommittee, I would argue, is a subcommittee of the TAC, but I would argue it is the most powerful, and, at least right now. the most important subcommittee” (Int. 2).

The TAC and, to an extent, other subcommittees provide those who are not voting members an ability to participate in the decision making process, and exert some influence over the process.

5.3.3 Subcommittees and hidden power

Subcommittees are especially important for setting the agenda of, and guiding, many of the decisions that the TPC makes. As was outlined previously, the TAC and the TIP are the two most important subcommittees in this regard. The TAC “reviews and evaluates the H-GAC’s regional transportation plans and provides its recommendations to the [TPC]” (*Transportation Advisory Committee | Houston-Galveston Area Council (H-GAC)*, n.d.-b). The TAC was described by one interviewee as “the engineers, the public work directors - it’s what I call the technocrats that do all the work and then that committee advises the policy council” (Int. 4). Where voting members of the TPC may lack technical or in depth knowledge about certain aspects of transportation projects and policy - the TAC members are specifically selected to be able to provide the TPC with expert insight and technical guidance.

While the TAC is not able to make final decisions on issues, they are able to metaphorically set the table for the TPC. They choose what the final product of plans like the Regional Transportation

Plan looks like when it is presented to the TPC, and therefore are able to keep certain things on the table while leaving others off. This type of agenda-setting power is attractive to groups that are looking to be influential in determining the future of transportation in the Houston-Galveston area. So much so, that one interviewee identified getting appointed to the TAC and other subcommittees as an avenue for influence:

“The way that I've always seen to be the most impactful in terms of getting your agenda through or getting your point heard is getting involved in the TAC, or one of the subcommittees, so that is what our approach is now is just like getting people on the subcommittees because kind of to my point earlier, if you get something up for action item no one's gonna look at it or question it. So if you can push things through from the lower level from the subcommittees and up to the TAC then you can get it through the TPC, and it should be smooth sailing” (Int 2).

However, it is precisely the subcommittee appointment process that undermines the hidden power of the subcommittees and relegates it again to the voting members of the TPC. That is because there is no rule for which interests need to be represented on the subcommittees; the decision on who is allowed to be a member of these committees is completely in the hands of the TPC. The appointment process was described as such:

“The entities that are allocated seats [on the TPC] choose who sits on the committee. From there the TPC has a nominating process for its immediate subcommittee– the transportation advisory committee – and for that committee, nominations are submitted by TPC members and chosen by the nominating subcommittee which itself is chosen by the TPC chair. So who gets to serve on these various subcommittees - is the TPC membership ” (Int 3).

Because the TPC is an invited space, the TPC membership is ultimately in control of who is and isn't invited - and therefore is able to include some voices and exclude others through the subcommittee appointment process. This inclusion and exclusion became obvious during the interviews and is best summed up in the following quotes:

“Nominations are submitted by TPC members and chosen by the nominating subcommittee which itself is chosen by the TPC chair...we've been on and off committees we've been kicked off committees and renominated ”(Int 3).

“There's definitely injustice and it's become more political recently in the last couple of years, and that's the challenge that if we have rural representation who is not aligned with some of the more equity, climate, and safety focussed recommendations that we make, we are definitely vulnerable to be kicked off committees” (Int. 1)

Unlike with the TPC seats, which are prescribed by bylaws as to which jurisdictions and interests are represented, subcommittee membership is at the mercy of whichever interests are dominant on the TPC. The TPC is therefore able to steer the agenda of the planning process through strategic appointment of certain interests over others on the subcommittees.

5.4 Understanding the status quo of the TPC

Although I've already discussed the invisible power that is wielded by TXDOT by their use of knowledge as power, this section will expand on the way that invisible power functions within the TPC, the values that drive the decision making process, and the way that these inform the status quo of the TPC. This section will ultimately attempt to unravel what the undisputed truths of the TPC are, and the way that these might set the rules for decision making. This will be less about the way that actors might wield power, rather about the way that discursive practice may benefit some while harming others.

5.4.1 Technicalities

Something that was brought up throughout the interviews, was the idea that the TPC process and transportation planning in general is such a highly technical process, that it is not accessible for most people to be able to productively participate in it. When asked about how the policy process at the TPC functions, responses varied, but the majority discussed how the technical minutia of the process renders it inaccessible.

"I'd say it's opaque and complex and the amount of overlapping jurisdictions from a planning perspective, from a funding perspective from a governance perspective uh it's an incredibly complicated place" (Int 2).

"The thing that is most difficult about it is that there is so much mystery around how everything works. There are so many acronyms so many funding minutia of federal dollars and local dollars and how it all comes together and where it all comes from and what it can be spent on and um so that makes the policy making process really um confusing both for the average person and also staff and also the people who sit on the TPC...federal and state requirements it all crashes together and becomes very confusing for anybody I think like the people who are most knowledgeable at the TPC about the way the sausage is made can still get tripped" (Int 1)."

What the confusion around the process and the functions of the TPC does is ensure that those who do not have the inside knowledge or the time and resources to gain inside knowledge are unable to be effective within the policy process. This was brought up multiple times in discussions regarding public participation in the process. One interviewee attributed this to the H-GAC treating public comment as a check-box saying,

"I don't think HGAC takes [public comment] as seriously as they could. For example there were some recent TIP subcommittee workshops where like it almost didn't get publicized ever when or where they were happening like I just happened to figure it out and like wanted to go and I showed up and they were like 'does anybody have public comment' - but I had no idea how anyone would know these meetings were happening" (Int 1).

In cases like this, even knowing when and where to be in order to give public comment is a technical hurdle to overcome. It requires knowledge on what meetings are being held, where to find information on said meetings, and how to participate.

Another interviewee expanded on this;

“it's not that people aren't invited but what happens is that their antenna aren't up so you're talking about this project that will probably turn the first shovel of dirt for in 10 years, but it's only when the projects window narrows and becomes closer to reality that people kick in and so that's the bigger issues and we struggle with that, we struggle with how to get people to come out to a meeting when it's nebulous and far in the future....What's happened is that their voice didn't get in when the decisions are being made and then once the decisions are made then you come in and you don't like them and and you want them to change so the thing is that you haven't come in when the decisions are being made and then you don't like and then you want it to change so that's what makes it difficult” (Int 4).

Again, this elaborates on the accessibility of the meetings; however, this time relegating some of the blame to the potential participants themselves for not being alert enough to the issues when they are first brought to the table. The idea, however, that people are only alert when the projects comes closer to reality shows that when a project is easily understood (i.e. “we will be starting construction on a highway expansion in your area next week”) versus (“there will be a highway improvement project on this section in 10 years”) that the public is then able and willing to participate. One interviewee who is a transportation policy professional, and therefore may have more resources with which to understand the process and jargon, even said of his relationship to the TPC process; “projects move forward and how plans move forward you get very easily confused by a lot of the language and sort of the terminology” (Int. 3).

However, the technical language and processes of the TPC seem to only be a hindrance in accessing an authoritative position for those outside of the formal decision making process. For voting members of the TPC, they do not have to understand the technicalities in order to make transportation decisions. One interviewee said,

“you have members swapping out so often that a lot of them don't even know what type of work they're doing. And so for instance if I'm doing resiliency work or air quality a lot of time my presentations would come up to the TPC either as an informational or action item, and even if it was action item, something that the TPC have to vote on, there would never be any pushback so it's basically anything that ended up being presented was voted through and I think that's one of the biggest problems that exists” (Int 2).

This was corroborated by another interviewee who pointed out that while members of the TPC do not have a transportation background, they are able to speak to members of subcommittees who are more technical about planning technicalities. However, the majority of interviewees quoted in this section have been members of subcommittees, and even so still find the process confusing, leading to the conclusion that it is the technical aspects of the TPC process specifically that are

the most opaque and inaccessible. One such interviewee summed up the problem as: “[the TPC members] don't receive a real onboarding or information on this is what you're doing this is why it's so important, your votes mean this. Like a lot of them they don't know, it's so technical and bureaucratic that they just don't understand what they're looking at a lot of the time” (Int 2).

In a way, TPC voting members do not need to understand the process or the technical aspects of transportation planning in order to assert their power over the process, whereas the public and other parties that have an interest in transportation planning do. The power then is relegated to those entities which, again, have the resources to be able to figure out how the process works.

5.4.1 Highways and economic development

The relationship between a desire for economic growth, and the construction and improvement of highways appears to underpin many of the decisions made by the TPC. One interviewee described the TPC as being “*stuck in the quagmire of just building freeways*” (Int 2) which, she notes is not necessarily the way that other MPO's that she has worked with operate. Reasons for why this may be were highlighted by another interviewee;

“Houston has long been the poster child for building the widest roads possible, conceivable and just a heavy reliance on car infrastructure and car mobility and an unquestioning commitment to the idea that the car will continue to be the mode of transportation of choice for everyone. As far as the status quo it's maintaining the need to continue building for capacity and continue building out to meet the growth of the outer counties like Montgomery, Fort Bend and Brazoria” (Int 3).

This path dependency dictates that highways are how people have moved around and will therefore be the way that people move around in the future as the suburbs become more urbanized. As was illuminated in the stakeholder mapping, outer counties represent a minimal amount of the population within jurisdiction of the TPC, but a majority of the votes on the council. One interviewee said that there are efforts to ensure that this reality doesn't create too much division;

“I think there are many people in the background trying to work on that in the region, what we're trying to do is trying to make people see the region as a region so if we all benefit we all benefit - and so that we speak with one voice is what we're trying to do” (Int 4). The efforts to do this are most likely due to the assumption that, as one interviewee put it, “that HGAC sits at this really difficult position of wanting to change the paradigm of mobility investment, and then coming up against regional interests and being unable to do that” (Int 1).

Even so, there are:

“A lot of elected officials from the rural communities...you know they're concerned about protecting whatever interests they have, you know whatever got them elected. Which isn't thinking about the betterment of the region and thinking about equity and climate” (Int 2).

There appears to be tension between the desires of the H-GAC, as well as those on the TPC who are attempting to advance beyond single occupancy mobility, and other interests - mostly supported by suburban members. These 'interests' were identified by multiple interviewees as economic in nature. These interests were related to the quick transportation of freight from one hub to another, as well as the transportation of freight from the Port of Houston to other land ports. These two issues were summed up by two interviewees in the following quotes.

"The Port of Houston is the second biggest port in the United States and so obviously it's enormous, so that's like where all the oil and gas hub is and then like that connects to there's a land port in Austin and then there's a port up in the Dallas Fort Worth area. So obviously there's like I-35, I-45 these freight corridors are so essential and those just really make up so much of the interest of the membership, that's why they're not concerned about the more like progressive like - let's address heat island effects and climate - they're more like 'these are our economic interests that we need to keep protecting them'" (Int 2).

"I think there's a strong undercurrent of such priority placed on freight that what we've kind of seen with I-45 we need this congestion, we need this for safety, we need this for hurricane evacuation and when those arguments have kind of petered out they've always continued to rely on - well ultimately we need this for freight. Houston is a huge freight city, I-45 is a huge freight corridor. We need this project, we need this capacity to maintain our freight capacity . I'd say that a strong value within the H-GAC structure is that economic development is sort of the key driver. If all else fails let's make sure we make room for the 18 wheeler" (Int 3).

The truth that appears objective in these quotes, and within the interviews, is that in order to develop economically and in order to effectively move freight from Point A to Point B - highway expansion is the best and necessary option. Whether or not this is true, has not been effectively disputed within the TPC - and so the truth that this holds remains unchallenged, providing highway expansion with power through its assumed relationship with economic development.

6 Discussion and conclusion

The following section will provide an answer to the main research question and subquestions through the synthesis of the findings above. The questions posed at the beginning of this research are: How do power dynamics within the Houston Metropolitan Planning Organization shape the environmental outcomes of transportation policy?

- Who are the stakeholders involved in the policy process?
- How and between whom does visible power manifest within the TPC policy making process?
- How does invisible power manifest within the policy making process?
- How does hidden power manifest within the policy making process?

In order to answer these, the 'powercube' framework was employed, and found that power dynamics within the TPC are key factors in how policy is produced, as well as how it is approved.

The powercube not only looks at forms of power, but also how that power interacts with the various levels of policy making and the types of space in which decision making occurs. The analysis was then conducted in order to map the data collected onto this framework. This mapping employed axis codes (ie. level x form of power) to understand the dynamics of the power and answer the sub-questions above.

Although the TPC could be, itself, considered “regional” level policy making - power from other levels is relevant in the policy making process. Here multiple actors from different levels of power are influential in the policy making process. Synthesizing the data that relates to ‘levels’ shows that the City of Houston wields visible power (local x visible power) and that the State of Texas through TXDOT operates using all three forms of power to steer TPC policy making (state x visible power, state x hidden power, state x invisible power). Not only is TXDOT a voting member of the policy council - meaning that they are able to set the agenda, as well as vote on policy, they also control much of the knowledge that is relevant to transportation infrastructure in the region. Because of this, there is an implicit trust in them when it comes to plans and policy, ensuring that they continue to hold power. In this way, TXDOT is able to shape the discursive *episteme* in a way that benefits their interests. The national level is represented as well, as MPO’s are federally mandated to exist in metropolitan areas, and provide much of the funding for new transportation projects (national x visible power).

The next task was to examine the TPC as an invited space. This found that there were two main groups of invitees within the space - the public and subcommittee members. Public comment is a federally mandated part of the process, therefore those who participate are in possession of visible power through legal mandate (invited space x visible power) - the data collected from interviews as well as from observation gave evidence that public desires as expressed through public comment are not generally a deciding factor in policy outcomes. Subcommittee members, although also invitees to the space, are able to access different forms of power more easily. Subcommittee members, especially those on the TAC, are key players in setting the stage for decisions on projects; they are also trusted because of their technical knowledge in a way that the public isn’t (invited space x visible power).

Also evident is that the appointment process for subcommittees - allows TPC members to shape the agenda (invited space x hidden power). Because the TPC appoints subcommittee members they can appoint members whose views align with their own, or remove those whose views don’t. This research cannot say whether or not this does happen, or happen often, but the possibility was brought up by some interviewees. The invited space dynamics of the TPC ensure that while there is room for input from outside of the TPC voting members, that input is ultimately controlled either through bylaws on how and when public comment is allowed or through the nomination and approval process for subcommittee members. This ensures that the interests on the subcommittee reflect the interests of the TPC voting members. Meaning, that if the majority of members of the TPC are opposed to considering issues of climate and environment - those interests will not be represented. And in an ever polarizing political climate in the US, there is a higher likelihood of political interests driving subcommittee appointments.

Lastly, the analysis showed two beliefs, assumed to be unchangeable truths, held by the policy bodies, that likely affect how they act.

The first are labeled as 'technicalities which expand on the idea of knowledge as power as wielded both by TXDOT and to some extent by subcommittees - and is focused on the idea that the policy process is inherently technical, esoteric, confusing, and opaque (invisible power x invited space x regional level). They usually believe that only those who are in specific positions, with access to time and resources, are able to understand how the TPC functions. Ironically, decision makers (voting members on the TPC) are not obligated to understand these technicalities and processes before making a decision or exerting their dominance over the process. While others - namely state groups, community groups, and the public - are required to unravel and understand the process in order to participate in it.

The second belief is that since Houston grew economically with the construction of highways, that therefore growing the highway system will in turn contribute to economic growth. This manifests as invisible power where many invitees have a stake in this belief and then other transportation options are not considered that may be more conducive to climate stewardship or social justice. Interviewees mentioned the importance of freight transport from the Port of Houston, and the already busy freight corridors of the I-45 and I-35 as reasons why the TPC approves new highway plans. This finding is especially relevant for answering the research question. As was discussed in the introduction and literature review - highway construction has long been a contributor in experiences of environmental injustice, and in the face of radical climate change brought about partially through Co2 emissions from combustion vehicles, it is imperative that we move away from single occupancy vehicle infrastructure. The idea that the only way that Houston will be able to grow economically is through mass transit of goods from the Port of Houston will need to be successfully disputed in order for the construction and improvement of highways to stop.

The following points synthesize the conclusions into the three main ways that power dynamics within the TPC shape EJ outcomes of transportation policy decisions.

1. Ultimately, the members of the TPC are the decision makers, and the ones who are able to control the agenda, and dole out invitations (unless bound by legal mandate from the federal government). As a result, if their interests do not align with building transportation infrastructure that centers environmental justice - those issues will be sidelined or completely left off the table.
2. While groups and organizations that represent environmental interests can participate in the policy making process through subcommittee appointment - they are at the mercy of the TPC's annual selection process, leaving them vulnerable to being excused from subcommittees. Therefore, they do have power to assist in agenda setting and policy decision - but only conditionally per the rules of the space.

3. The ingrained and undisputed beliefs that the process is inherently technical and inaccessible and that highways are necessary for economic growth drive the decisions made by the TPC, and will need to be challenged and unraveled in order for there to be more inclusive and environmentally conscious policy outcomes.

With an understanding of how these dynamics affect the policy making process, it is now possible to make recommendations on how groups can find pathways to effectively advocate for transportation policy that centers environmental justice. John Gaventa concluded in his article “Beyond the prepositions: using power analysis to inform strategies for social action” (2020), he posits that “really transformative change occurs when social actors work across all aspects of the cube, necessitating the emergence of coalitions and networks of actors” (p. 8). The three forms of power, as well as the space aspect of the powercube will be addressed below and in doing so will bring in the levels of power.

Gaventa (2020) finds that in order to address visible forms of power “the emphasis for action may be through...building alliances with key policymakers, and focussing on institutional reform” (p. 9). In the case of the TPC, building alliances with key policymakers may not be possible with the way that the current board is divided. Therefore, the most effective strategy may be through institutional reform, and ensuring that there is equitable distribution of urban/suburban votes on the board. There are other MPO’s (Sanchez, 2007) that have ensured that the voting power of a jurisdiction is representative of the size of the population. It may also be helpful for organizations to focus organizing power on local races in represented jurisdictions in order to ensure that members of the TPC are coming from administrations that represent progressive interests.

This then leads into what Gaventa (2020) finds are strategies that address hidden power which are “mobilization to bring voices and issues into the public arena” (p. 9) and building power through grassroots organizing. Many groups mobilize directly in response to TPC agenda items. However, what this organizing should also focus on is organizing at the state level on policies that could trickle down to the TPC as directives, knowledge, or use of resources via TXDOT.

Invisible power is more difficult to address as it would require “strategies for change involving interrogating and disrupting social norms, beliefs, and traditions that legitimate an unjust status quo” (Gaventa, 2020 ,p.9). In the case of the TPC the assumption about economic development and highways may be challenged if enough of the membership represent jurisdictions that center new forms of economic growth and sustainable transportation. The acceptance of the technical inaccessibility could be contested through education campaigns on TPC processes and jargon - in order to ensure that it isn’t only those with resources and time that can understand the process well enough to have a voice.

What many of the results also reduce to is that power is derived from legal mandate or TPC specific bylaw rules and from epistemic norms that are embedded in the discourse of the TPC. In the case of the voting membership of the TPC - the directives from the federal government do not give a specific breakdown of seats. Therefore allowing each MPO to decide how they want to

compose their board. Therefore, as in the case of the TPC, there can be disparities between the population size and the number of votes a jurisdiction is allowed on the board resulting in rural and suburban communities having more voting power. The bylaws of the TPC also provide a pseudo-legal basis (as they are not actual laws but governing rules for the TPC) for who can and can't be invited to the space, for how votes should be made, and who can vote (deciding who the voting members of the TPC are). State legitimacy which is "applied primarily in the domain of the political and relates to the exercise of coercive state power" (Hinsch, 2010, p. 40), can also possess normative legitimacy. First, we must understand that it is in the more endemic expressions of power that this legitimacy is rooted - as the legitimacy of an institution not only relies on coercion (visible power) but on "people who sincerely believe that these arrangements should regulate their conduct irrespective of external sanctions" (Hinsch, 2010, p. 41). In order for an institution to obtain normative legitimacy "what matters primarily is that citizens as autonomous moral agents have a claim that the norms regulating their mutual affairs be norms they can reasonably accept in the light of their well-considered belief and interests" (Hinsch, 2010, p.43). This can only be achieved when polarization and opposition between normative traditions is overcome and then translated into a democratic process in which decisions made gain widespread approval on the basis of morality (Hinsch, 2010). In the case of the TPC it can be understood that the legitimacy of the institution is currently empirical and does not have normative legitimacy, which is what is impeding the achievement of justice.

It may be that a way in which to address the normative limitations of the TPC is through the creation of 'claimed/created spaces' which were identified as the third dimension of "space" on the powercube. As discussed previously, claimed spaces often emerge as a result of popular mobilization concerning a specific issue (ie: a highway expansion, air pollution in Houston etc), these spaces can exist as the result of intentional creation by social movements or as organically emerging from communities - and ideally offer a space for those who have been traditionally excluded from decision making to find their own power to initiate change (Cornwall, 2002). While this space may also become exclusive to those who have been marginalized - it will be through the interaction with the TPC as an invited space which represents the voices of the institutionally powerful that normative consensus may arise (Gaventa, 2006; Cornwall, 2002). Therefore, furthering the TPC's ability to address issues of environmental justice.

It has become increasingly clear throughout this research, that MPO's like the TPC hold the power to radically transform transportation systems across the United States. These transformations have the potential to mitigate climate change, and assist with climate adaptation. However, the way that power operates, especially within the TPC, has made it difficult for these changes to happen quickly enough, or possibly at all. If environmental justice organizers across the country were to focus on ensuring that the voting members of MPO's center EJ and climate in their decision making process - the United States could not only become a leader in sustainable transportation, but a healthier and freer place to live for a majority of residents in metropolitan areas.

7 Reflection and recommendations for further research

This research was driven by an interest in the transportation planning landscape of Houston, and with the goal of serving as an advocacy piece of research that could provide information useful for environmental and urban justice advocates who focus on transportation. The MPO of the Houston area served as the case in this study as they are the policy body through which transportation decisions are made. The powercube framework was the vehicle through which the analysis was conducted and provided insights into the power dynamics on the TPC as well as a way in which to conceptualize how these dynamics can be undermined or upheld. Where this research encountered limitations was most noticeable in the data gathering process. Other TPC members, as well as representatives from TxDOT and the City of Houston were reached out to - however many did not reply and others did not want to be interviewed for this research. Since the research was done remotely, from the Netherlands, methods of communication were limited to email and text. Therefore, certain stakeholder groups were not able to be represented in the interviews and information regarding their role in the TPC process was limited to documents and observation.

In order to follow through with the advocacy nature of the research which includes “collaboration with people in the system” (Moon and Blackman, 2018, p. 1174) the preliminary findings and research design were presented to a coalition of organizations and individuals in Houston called “Stop TxDOT 1-45” whose mission is to “challenge the status quo of transportation policy and to fight for all people in Houston to be able to participate in the decisions that affect health, safety, and mobility in their communities” (I-45, n.d.).

After the presentation, questions were posed to the group about if and how they saw this research fitting into their advocacy work and what sort of research related they would like to see from any future researchers. Many of the responses were related to hidden power; they were especially interested in gaining a deeper perspective on how economic and business interests could shape the agenda of the TPC, expanding on the conclusions made about invisible power. There was also interest on what the findings would be if this framework was applied to other MPO's - most specifically other MPO's in Texas. Mostly, the discussion revolved around how the group could use these findings to further their mission by creating digital content based on the research, as well as to create new strategies for action.

From a theoretical and academic perspective, the findings from this research suggest that power within the TPC operates across all levels and forms of the powercube, however what did not become as clear in the findings was the way that closed and claimed spaces operate as related to the TPC. Further research should address these two aspects of the framework. The use of only one case study in this research limits this research to a specific situation. The application of the powercube framework to other MPO's would allow for comparative analysis and add an aspect of reliability to the research problem.

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Appendix 1: List of Interviewees

Interviewee #	Name	Date Interview (and any follow- up communications)	Current Positions	Relationship to TPC
1	Clint McManus	April 26, 2022	Transportation	Former H-GAC

			planner in Houston	staff member and Bike-ped committee chair
2	Kristin Ronneberg		Policy and Advocacy Director at BikeHouston	Former H-GAC staff member (has worked at other MPO's as well)
3	Harrison Humphreys		Transportation Policy Director, Air Alliance Houston	TAC committee member and engages in public comment
4	Dr. Carol Lewis		Professor and Director of Texas Southern University College of Science, Engineering and Technology, appointee to Gulf Coast Rail District	Member of the TPC, former member of the TAC