

---

## JACKSON, MISSISSIPPI FOOD SECURITY EFFORTS: UNDERSTANDING THE CURRENT AND FUTURE FOODSCAPE

**BOWERS, NATALIE**

Mississippi State University. nrbnrb99@gmail.com

**FRANOVICH, ABBEY**

Mississippi State University. akw253@msstate.edu

**THOMPSON, DIEGO**

Mississippi State University. dthompson@soc.msstate.edu

**SUMMERLIN, PETER**

Mississippi State University. ps111@msstate.edu

**ABSTRACT**

A case study of efforts and actors working to improve food access within Jackson, Mississippi's foodscape using interview and mapping methodologies, this research documents the challenges and opportunities of food efforts in Jackson. Current food work is analyzed through a cultural lens – exploring how the work is influenced by the unique conditions and aspects of Jackson and a temporal lens – how time impacts access. It also documents historic changes and future visions for Jackson.

This investigation contributes to Understanding sustainable food system work, determining spatial, infrastructural, and temporal inaccessibility, increasing understanding of opportunities and challenges for food security, and adding to existing literature on the foodscape. By studying food security organizations, the built environment, and social dynamics in the current context, this research reveals challenges such as temporal accessibility gaps to resources such as food pantries, temporal accessibility limitations of Jackson's public transit and its hindrance on food procurement, and the small numbers of people working on food security compared to the need and scale of food insecurity in Jackson and Mississippi as a whole. The larger regional context of food production and food security will be a barrier and a framework of local food production viability. However, landscape architects' expertise in spatial distribution, site design, and public space can support local organizations to improve local foodscapes and food resilience.

**Keywords**

Foodscape, Food Security, Food Resilience, Temporal, Access

## 1 INTRODUCTION

Everybody needs to eat. But what one eats, where one gets their food, and how one decides can vary dramatically. Spatial, social, cultural, historical, temporal, and political influences on food provisioning are explored by this study. It investigates the foodscape to understand how these factors influence food security and resilience as well as the implications of the landscape on food provisioning, health outcomes, and food security. For this study, food security is defined as “when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life,” utilizing the definition by the Food and Agriculture Organization’s World Food Security and Food Summit Plan of Action (FAO, 1996). This study’s definition of foodscape draws from the definition “the physical, economic, political and socio-cultural context in which consumers engage with the food system” (HLPE, 2017); with a focus on the local food system. Food resiliency for this study includes efforts such as local production, food policy work, and actors who are engaged in building capacity for local food production, access to local food, and systemic change.

### 1.1 Jackson and Food Insecurity

Food insecurity is damaging to families and communities in Mississippi. Diabetes, obesity, and poor mental health are associated with food insecurity (Vonthron et al., 2020; Hudak et al., 2020). Poor health outcomes are also expensive to treat and remediate (Meter & Goldenberg, 2014). According to the US Census Bureau, in 2020, Mississippi ranked highest in the US for SNAP, or Supplemental Nutrition Assistance Program, eligibility which provides “food benefits to low-income families to supplement their grocery budget” (USDA). Eligibility for SNAP was disproportionately higher among Black Mississippians who were 53.1% eligible compared to 19.5% of White Mississippians. There were also distinctions between Jackson and its surrounding area, with SNAP eligibility in Hinds County (39.3%) double the rate of Rankin County (19.3%) (Knop et al., 2023). According to Feeding America (2024), as of 2021, Hinds County has a 13.7% food insecurity rate with an estimated food insecure population of 480,600. Food insecurity for Black Mississippians in Hinds County is 25%. Latino residents have a 18% insecurity rate and white Hinds County residents have a 10% insecurity rate (Feeding America, 2024). By these numbers, one in four Black residents of Hinds County is food insecure, and one in 10 white residents. Furthermore, food insecurity rates for children in Hinds County is 24% compared to an estimated overall US rate of 12.8% (Feeding America, 2024). There is limited food insecurity information specific to Jackson’s municipal boundary, but Jackson has a poverty rate of 25.9% (US Census Bureau, 2023), which has a strong correlation to food insecurity, and Meng found that Black communities within Jackson had lowered health outcomes compared to the neighboring cities of Madison, Ridgeland, Flowood, and Brandon; the healthiest areas in the Jackson region (Meng, 2023).

Existing literature has not studied the groups or people addressing food insecurity in Jackson, defined for this study as the Jackson municipal boundary. Research on food insecurity in Mississippi centers on the Delta region (see Cobb, 1990, Dickens, 1927 & 1928, Grim, 1994, among others) however food insecurity in Jackson is both prevalent and unique; Jackson is urban, less agricultural, and the capital of Mississippi (Meng, 2022). It has an 82.2% Black population, is one of the Blackest cities in the US (US Census Bureau, 2023), and is shrinking, being the second fastest shrinking city in the US 2018-2019 (Toukabri & Delbé, 2023).

### 1.2 Space

The impact of distance to food has increasingly been found to be divested or weakly tied to food procurement (Vonthron et al., 2020; Hammelman, 2018), as research has found weak links between overarching proximity of food locations and health (Caspi et al., 2012; Xu et al., 2018); Increasing suburbanization in American cities such as Jackson currently result in higher socio-economic status (SES) groups traveling further on average to access food (Xu et al., 2018). Increasing globalization and dominant agricultural practices are impacting consumption, with “Ultra-processed [food] becoming the most prevalent foods within global food systems” (Vogliano et al., 2021: 15). Despite agriculture as a predominant industry in Mississippi, an estimated 90% of the food consumed in the Mississippi is sourced outside of the state and \$6.5 billion is spent on food from outside the state each year (Meter & Goldenberg, 2014). These factors point to a disconnect between the proximity of food and availability, and to the importance of temporal, social, and accessibility factors omitted from purely spatial analyses of the foodscape.

### 1.3 Time

Food security responds to multiple time cycles, from agricultural seasonality to when wages or benefits are distributed. Government benefits are generally distributed on a monthly basis; one study found that “...approximately half (52%) [of families] exhausted their SNAP benefits within 10 days of receiving them” (Hudak et al., 2020). Lower-income families are typically also “time-poor” (Widener & Shannon, 2014) as features of poverty such as car-lessness can make food procurement more difficult and time-consuming. Urban areas fare better than rural ones in spatial access but also tend to have higher percentages of carless households, populations below the poverty level, and low household income (Dai & Wang, 2011).

### 1.4 History

Mississippi also faces a history of food and food assistance being controlled by white populations. In 1962, Delta whites on the Leflore County Board of Supervisors controlled food programs and cut off food distribution to discourage Delta Blacks from supporting a voting registration drive (Cobb, 1990). The introduction of food stamps meant to alleviate food insecurity, resulted in African American families borrowing money from white landowners to be able to purchase the food stamps (Cobb, 1990). Black Mississippians have sought independence, exemplified through Myrlie Evers 1960s gardening club in Jackson, during a time when Black families were prohibited from joining gardening clubs, and Fannie Lou Hamer’s Freedom Farm Cooperatives which provided Black Mississippians collective farmland and food security in the 1970s (National Park Service, 2023; Smith, 2019).

### 1.5 Research objectives

Existing literature on Jackson does not reveal what current actions are being taken to address food insecurity and food sovereignty, and largely focuses on levels, concentrations, and impacts of food insecurity and poverty. Jackson faces symptoms of shrinking cities: continued loss of a tax base, increasing vacancies, difficulty funding infrastructure, reduction in political representation, and overall population reduction (Desmini, 2014). Disproportionate food insecurity in Black and impoverished families within Jackson will likely intensify as those affluent enough to leave the city continue to out-migrate (Wesley et al., 2005; Frey, 1980). This study sought to understand the current actions communities, organizations, and individuals are taking to address food insecurity and food resilience. By interviewing current actors, this study intends to increase understanding of the challenges and opportunities to alleviate food insecurity. Studying current efforts is also important to show that there are people serving and fighting for Jackson residents. Existing food work is analyzed through both a cultural lens – how is the work influenced by the conditions and unique aspects of Jackson? – and a temporal lens – how does time impact access, and what are historic changes and future visions for Jackson? This research reveals existing movements within Jackson addressing food resilience and security in the foodscape, their current challenges and opportunities, and what they imagine for Jackson’s future.

## 2 METHODS

### 2.1 Interview

To gain a holistic understanding of the organizations and actors in Jackson, a primary method of semi-structured interviews is used. Interviews with important actors in the Jackson area gain a depth of information about the work existing organizations are doing, interviews also provide clarity on factors beyond the number of people served or number of individuals facing insecurity. They uncover the day-to-day mechanisms that let these organizations run, the interconnectedness of existing food security efforts, and perceived policy challenges and benefits. Interviews are structured to reveal how space (e.g., location of organization and constituents), time (e.g. funding or seasonal cycles), and sociological factors (e.g. race, policy, and community response) play a role in the function, efficacy, and future of these existing organizations. Individuals were interviewed in person for an hour and chosen for a perceived ability to comment on food security and resiliency in Jackson based on involvement in organizations or programs. Some interviewees were identified through connections with the Mississippi (MS) Food Policy Council. The MS Food Policy Council is a state-wide organization that gathers food activists to support food systems work and engage Mississippi public policy (MS Food Policy Council). Out of the nine interviewees, five were contacted through the connection to the MS Food Policy Council, while four individuals interviewed were contacted through email based on their organization’s activism or connection

to the Jackson foodscape. Efforts were made to include a mix of organizations focused on direct food security efforts, such as the MS Food Network, and organizations working on food resilience, such as GRITS (Growing Resilience in the South). Prospective interviewees were contacted via email to gauge their interest or availability to participate in the study. There were no exclusion criteria applied based on age, race, and gender, however, no one below the age of 18 was interviewed. All organizations listed below were represented by an interviewee who consented to the disclosure of their organization's identity: Mississippi (MS) Food Network, FoodCorps, Riverside Collective, COFO (Council of Federated Organizations) Civil Rights Education Center and Food Systems High School Program, Operation Shoestring, Society of St. Andrew (SoSA), Immigrant Alliance for Justice and Equity, TREE Urban Design.

Interview limitations include the limited number interviewees, a total of nine. Many perspectives were not represented: specifically, no on-the-ground food pantry organization in Jackson was interviewed and no local farmer or producer was interviewed. These two perspectives are critical to understand local production and provision. Another limitation is the large number of white perspectives represented by the interviews: Perspectives from Black Jacksonians are needed to further represent the majority population. Interviews also did not use software for pattern analysis, increasing the likelihood of gaps in analysis.

Equipment used for the interviews included a microphone for recording and the program Camtasia. Interview questions were developed to give a holistic view of the current challenges, opportunities, operations, and future ideas for Jackson. Questions were divided into sections based on themes for clarity. These sections include Introduction and Location, Demographics and Culture, Challenges and Opportunities, Food Resources, Policy and Agreements, Operational Resources, Visioning, and Wrap up. Questions were also divided into sub-questions to assist with obtaining more detailed information and could be omitted if answered in the overarching question. Questions were submitted and approved, meriting exempt status by the Institutional Review Board (IRB) Protocol number: IRB-23-610.

## **2.2 Mapping and diagramming**

Mapping and diagramming are utilized to understand and interpret the spatial, temporal, and cultural factors influencing food insecurity and food resilience to understand the physical, spatial, and environmental components of the foodscape. Foodscape mapping was analyzed through a temporal lens to investigate intersectional access - space and time. Experience of the foodscape is influenced by barriers to food accessibility including transportation, economic stability, and time. There was no literature found on temporal aspects of food security or resilience in Jackson. There is also minimal literature on visual ways to map or diagram the dimensions of time. As current modes of mapping food deserts and the foodscape impact current and future understandings of the foodscape, this study seeks to expand knowledge by integrating spatial and non-spatial analyses to comprehend food insecurity.

For temporal map-making, information was gathered on existing food pantries within Jackson: including information on the name of the organization, times they are open, location, if they are religiously affiliated, if they serve certain demographics, and any identification requirements. Free food resources were gathered from existing resources listing food pantries, such as the Mississippi Food Network, and a posting of food resources on the city of Jackson website as of 2019. There was a frequent inability to determine all information needed, with many places listed as resources lacking digital footprints or up to date information. Because of the unreliability of many of these, each food resource was checked to see if it could be verified through an online footprint. Those with up-to-date (within the year) postings or updates to their websites and explicit mention of their food assistance programs with times and locations are included in the diagram Figure 5. Those unconfirmed or without online footprints were included in Figures 1-4, as long as the posting by the MS Food Network included all necessary information. Likely, some food pantries within Jackson are not included due to lack of online presence or knowledge of them as those depicted are ones that could be confirmed through online research. GIS and Illustrator were used to create the maps. 2020 Census data (density and poverty rates), roads, streets, highways, buildings, and Jackson Municipal Boundary Lines were added using ArcGIS Pro. GIS Data was sourced from Mississippi Automated Resource Information System (MARIS) and the USDOT Equitable Transportation Community (ETC) Explorer. As no GIS data on the new JTRAN bus lines was available, these were added by hand using Illustrator. Grocery stores, food pantries, and hot meal locations were also added in illustrator.

### 3 RESULTS

The interviews were analyzed for recurring themes for food security and food resilience work. Selected quotes are included based on their impact and representativeness of the general sentiment demonstrated in the interviews. The interviews investigated the overall challenges seen by those working on food security and food resilience. One theme that emerged was assumptions, about the nature of food work, individual organizations, and the populations that the organizations are serving.

“People tell us all the time, ‘Black people don’t eat this, Black people don’t eat that.’ You know, these kinds of broad claims that suggest very limited options for what people can consume. And usually, those options are things that you can’t grow too, so when that’s the narrative I think - I think it’s a bit patronizing.”

A barrier described during the interviews was transportation. Those interviewed referenced concern for people who cannot drive such as elderly individuals, the visually impaired, and those without access to a car. Transportation was cited as an opportunity for the city of Jackson to improve food access.

“[P]eople are losing grocery money off paying people to take them to the grocery store. I think free or reduced public transportation and more of it across the city would be huge [...] Food insecurity in Jackson has to deal with transportation. [...] And to have limits on it. [Y]ou can only have 3 bags.”

Consistency of funding, volunteers and employees, weather, and food pantries was desired, and lack of reliability in these areas was described as a challenge. Desire for consistency in funding, and funding overall, was reported by many interviewed. One of the largest funding challenges was not a lack of avenues but the constant need to pursue money; constant time and effort needed to continue funding the work.

“And so, if money goes away, that supports a service, then that service is not there for kids and families and it affects us as an organization if there’s this void in service to people who depend on that ...”

Another interviewee stated: “[A] challenge [is] the aging out of volunteers [...] So, we’ve had some agencies close because they just didn’t have the volunteers to come in to replace the people that have been doing it.”

The state of infrastructure in Jackson was cited as a major challenge, including both water infrastructure and road infrastructure.

“That’s why I say Jackson is slow to act, or the people in power are slow to act until a tragedy happens. We knew that the water crisis would happen because it just kept getting worse. The boil water notices would get longer and longer. Then more people are getting like disgusting water, so we knew as soon as a change happened in the seasons that a big crisis would happen. And it lasted 3 months, people had no water. And the immigrant community didn’t even know what to make of it, because all the news broadcasts were in English, so we would get mothers coming in or talking to our community health workers with, like, rashes on their arms, not knowing it was because of the water.”

Time is a factor of accessibility, use, and knowledge around food. Another challenge reported was how perceived lack of time has impacted the lives of the people being served in Jackson as well as the organizations within Jackson.

“I think people being stretched too thin, financially and time wise. It doesn’t seem immediately connected to food, but I think that food access and education would be better if we had better access to childcare if we had better public transportation. If we had stronger labor laws, if we had more and strong unions, those things. That make life livable and make us happy at work, at home, and give us spaciousness.”

There have also been concerns about safety in Jackson. As people have left the city, it has been described as “more transient,” and resulted in some organizations having to invest more in security and safety measures.

---

“We have security and we never had to have security before [...batteries off our trucks were stolen] and it doesn't sound like a lot, but when you're a nonprofit and you got to pay \$3000 for a battery to get your truck on the road to do what you do, that's a pretty good hit, and it happens every so often, more often than it should.”

During the interviews, frustration with both the management of the city of Jackson and the treatment of Jackson by the State government became evident. Described as “political chaos,” it was notable how the political sphere was felt and perceived by residents, and the apparent ways residents of Jackson have internalized how the State treats Jackson. They describe their position as not just an underdog but as a construction undesired by the government and the state.

“...the way that the state treats Jackson is a powerful negative thing. So that kind of facilitates, I think from my perspective, some degree of futility and anger among residents and other folks who are engaged in doing the work that we do.”

“When you're just being attacked on all sides, being in Jackson and - like we have now, there's capital police stuff, and the water is poisoned and there's just so much happening and so many powerful people who are trying to kill residents of color in Jackson and middle to low-income residents in Jackson. Like what about this moment inspires you to learn to garden?”

Collective sentiment demonstrates a theme of un-reliance and distrust of State and City officials. This has resulted in individuals questioning modes and methods of getting action done without relying on governmental structures.

“Maybe we can't rely on the state, maybe the state and the capital aren't the path forward for us to be happy and fulfilled, maybe we need to make that world happen ourselves [...] thinking about what it looks like to pursue policy in a meaningful way. Like, does it make sense to try to work with people who have been upholding white supremacy for generations to get the policies that we want [...] Is the governor a person who can actually improve food access in the state?”

Also revealed were strengths. One of the most reported strengths was connection. Interviewees described a connection with and passion for Jackson. Knowledge of other organizations and collaboration supports existing food work - not only through resources but also in emotional support. Another stated strength was a connection to history and change in Mississippi and Jackson.

“[A strength is] the history of this work, like Fannie Lou Hamer's Freedom Farm cooperatives, I think that's so important. [In] political science studies about movements [...], one of the markers of the movement bound for success is if the people involved in it have a memory of the thing that they're fighting for [...] And Mississippi has that for freedom schools and freedom farms, yeah.”

Another reported strength was a farm within Jackson that is focused on serving the community. Footprint Farms is run by Dr. Cindy Ayers Smith, founded in 2010 (Footprint Farms, n.d.). Multiple people interviewed have collaborated with Footprint Farms to generate greater food security and connection to local food.

“[There's a partnership] with Footprint Farms to bring all the students to Footprint Farms, to bring Footprint Farms' farmers to Blackburn middle school, connect people to their local food systems, and then do taste tests and to introduce the students [to new foods.]”

The arts, such as music, photography, documentaries, and more, were described as a source of strength for Jackson. Because of out-migration, there is a need to keep residents engaged and desiring to stay. There is also recognition that engagement with Jackson such as tourism would benefit the city's economy. However, those interviewed did not describe the strength and opportunity of the arts in economic terms but as an emotional connection to the arts and their ability to generate hope, inspiration, and change. During the GRITS interview, they described their vision for an agricultural demonstration center and safe space that highlights the arts in Jackson.

“I want other safe spaces for Black people to exist and not just a space, but a space to build and be creative because I think creativity is our currency and I see us as being known as the City of Black creatives.”

Responses also described changes to the foodscape. Larger scale changes that impact the foodscape and food work in Jackson include the state of Civil Rights in Mississippi and its changes over time. Past actions will guide future actions and the Civil Rights past influences how individuals in Jackson feel now and foresee the future.

"[...] 50-60 years ago, as a young person walking through the doors of this building, you would have been a civil rights activist. And in 1964, sixty years ago, three young students were kidnapped and murdered for their work. [...] But sixty years is not that long. [...] Something incredible has changed in that period of time. [...] There's still way more to do, but something has changed and credit to the work that happened in this building to making that change possible. And it's a map for how to move forward."

Another change is COVID, which altered the foodscape across the United States. Interviewees described how COVID changed food security and resilience, seeing heightened food security efforts, but a "quieting effect" for food resilience efforts.

"And since COVID and even still today, the majority of our pantries are doing drive-throughs where they never get out of the car."

"*Speaker 1*: 2020 happened and we've been trying to pull out of that since then because we went into very much reactive mode, and we've been in that phase for four years and so we're slowly coming out of reactive mode. *Speaker 2*: We distributed 41,000,000 lbs and on average we do 25, 26 there. *Speaker 1*: With no addition in staff and we lost all our volunteers. In fact, we lost staff."

"...I've heard from others that the pandemic had a quieting effect on a lot of the services and actions and movement building [...]but] threats coming out of election drama seems to have really ignited, fired people up again."

The pandemic resulted in the immediate demands of increased food insecurity. The responses demonstrate how emergencies can create challenges for systemic work and increase the need and visibility of food insecurity. Challenges described demonstrate there is still work to be done in Mississippi, but long-term change is possible through continued efforts. Interviewees were also asked their vision for this long-term change. Vision questions included "What do you imagine as a future for Jackson in the next 5 years and the next 25 years?" And "What would it take to reach that vision?" These questions sought to understand what those working in Jackson imagined as the future and what would be necessary to reach these goals. The answers to this question revealed not only suggestions for increasing food access but desire for a change in the relationship between Jackson and the political landscape. The effect of policy and politics on Jackson was revealed in the way that many visions for the future described a hope for improved political leadership. For many, it feels that what can be accomplished is diminished by the current political climate in Jackson and that strong political leadership would bolster the quality of life and progress possible.

"I think we have to have leaders who can speak the truth and figure out how to get stuff done. And are better public servants and not just prophets. You know, figure out how to run organizations and or deals."

"In the next 25 years, this state is going to be a majority Black and brown state. [...] And when that change comes, if we can educate people and keep them engaged, then the power is going to shift. [...] white folks who are directly descended from and still invested in the power of Jim Crow [...] they're not going to have power. And [they] have been fighting like hell to maintain as much of it as possible. And that day is coming. And in the next 25 years, well within our lifetimes, hopefully well within my lifetime, that we're going to see some pretty drastic change, remarkable change, positive change for this city and state, at least I think that's possible."

Multiple people interviewed desired demonstration centers for agricultural education and aggregation. These demonstration centers could provide education, resources, and examples of functioning urban agriculture. Each interviewee's proposal had a unique vision of what a food demonstration center should include or prioritize. A challenge for the completion of a demonstration center includes deciding what to

prioritize or fund. Ideally, multiple centers could be built encompassing different ideas and purposes. One idea was a center as a Black safe space that engenders greater connection with the land; recognizing the historic trauma of slavery and sharecropping while creating a new healing connection. Further ideas included engaging with the arts, which could generate greater external interest and invite events and wider engagement. Adding artistic expression could bring people into the space who do not naturally gravitate towards agriculture or food resilience work.

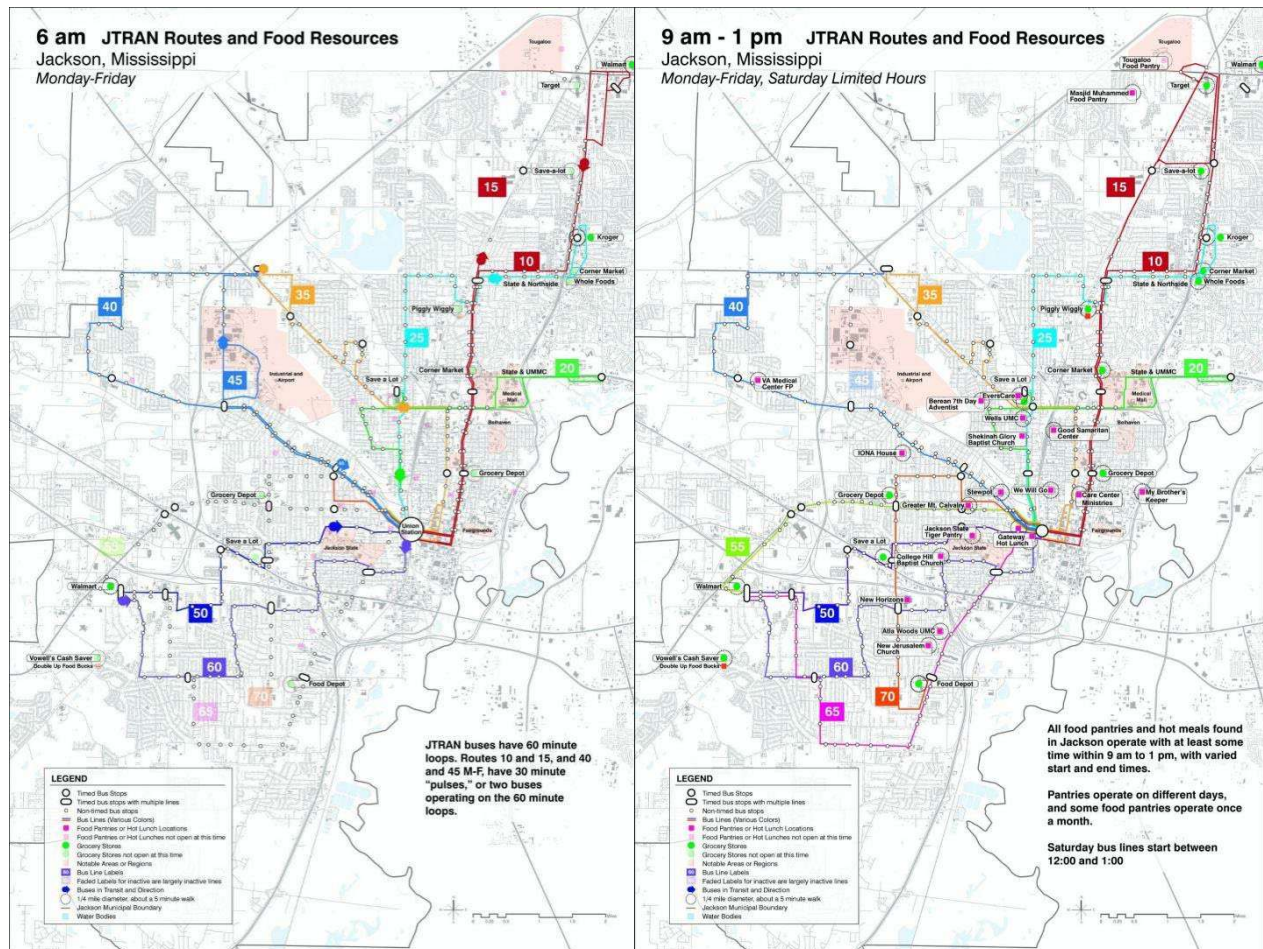
“[...] part of the vision is a story garden and it's not like a traditional community garden. I call it a place to plant literal and metaphoric seeds. I am a storyteller, and so I envision the garden having a stage where we can have spoken word performances. And opportunities for artists and creatives to host their events and showcase their talents, but it also be an opportunity to plant seeds specifically, cultural foods that people may have been disconnected from, like African American cultural foods like okra, black eyed peas, watermelon, those foods, and learning the history about those foods as well. So, I envision an interactive garden where people can really physically connect with the land.”

Another proposal was using demonstration sites as business plans to promote successful and scalable agriculture, with the goal of expanding accessibility and feasibility of urban agriculture across Jackson.

“...if you had a number of really strong demonstration sites to show people the potential of this, you could then convince your policy, bankers, your lobbyist, faith leaders and people like that into doing something like this. Perhaps even making it more modular in terms of creating a standardized sort of business plan [...] You know, what would it cost to build a quarter acre?”

Despite differences in ideas, a key commonality found was promoting interaction with the agricultural landscape. Other visions included ideas for physical changes to the built environment that increase quality of life in Jackson. Improved quality of life is tied to the hope it would stop the loss of people from Jackson. Other ideas for increasing local food access included agro-tourism, an increase in farmer's markets, and increased farmers market access.

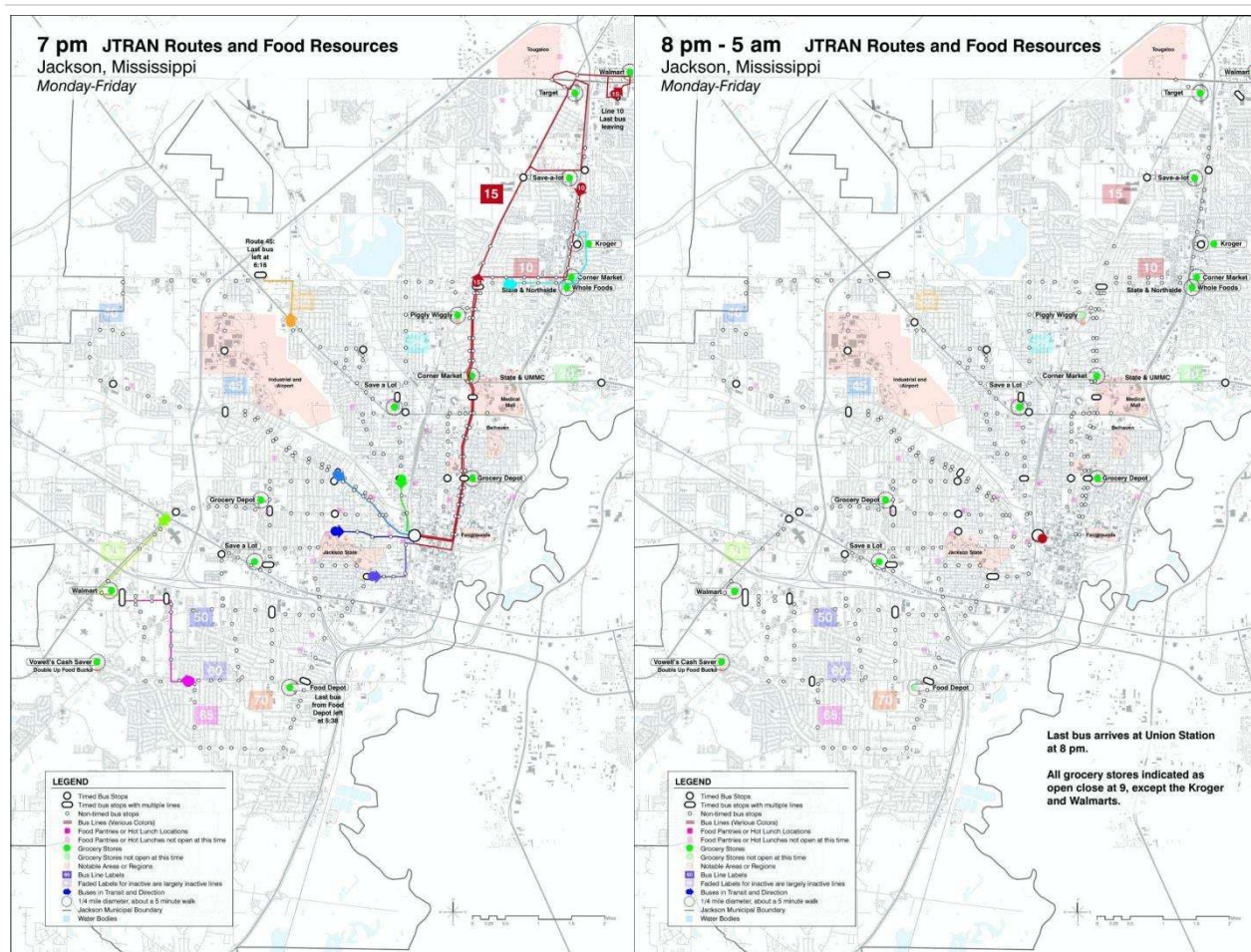
### 3.1 Mapping



**Figure 1 & 2. Food Access Map Series 6am and 9am - 1pm (2024). Diagram by the authors.**

Temporal mapping of the bus system was completed to understand the relationship between the food security landscape in Jackson, the bus system in Jackson, and temporal accessibility of these elements. For the temporal map series in this study (Figures 1-4), food assets are defined as resources for free food. This includes locations such as food pantries, community kitchens, emergency food distribution, and community food organizations. This food asset mapping is derived from existing lists of food resources in Jackson. Two maps show 'points' in time – one specific time (ex: 6 am) – and two which show "ranges," or a period of time across some hours of the day. These maps demonstrate the location of the buses, what bus lines are active at the time, and what food resources are open at the time. Also of note is the frequency of bus routes in Jackson – each bus line is on 60 minute loops.

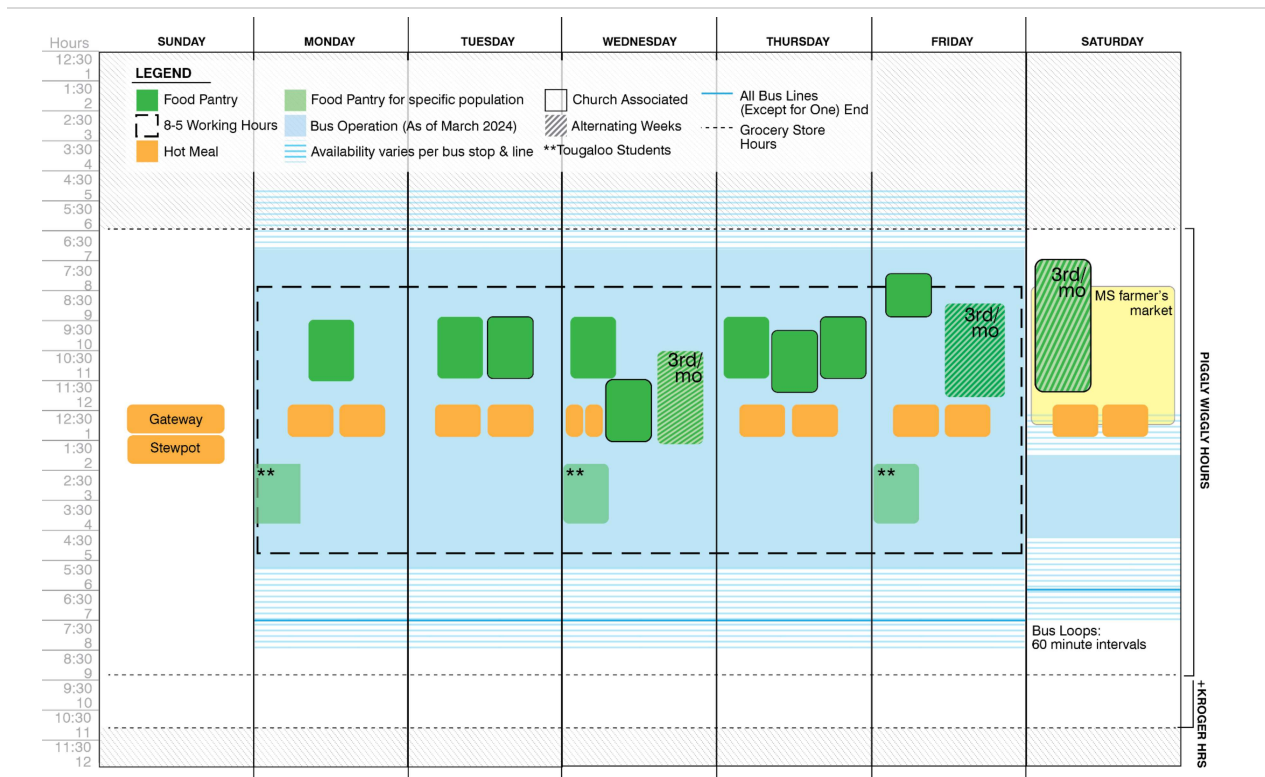
The first map – 6 am. (Fig. 1) reveals no open food pantries, and only Walmart and Kroger for food procurement at this time. Next is (Fig. 2), 9am-1pm. This time period was chosen due to it being the range where food pantries tended to be open (all except one food pantry found in the study were open at some point this time). This does not mean that each of the food pantries are open for the entirety of the span, but rather at some point in this time frame. It demonstrates there is the greatest accessibility for food procurement and bus access early to midday. Of note, even this graphic can mislead understanding of temporal accessibility as each food pantry has varied days that they are accessible, with the majority only open one day of the week. The temporal diagram (Fig. 5) gives greater clarity on the weekly variation in accessibility.



**Figures 3 & 4. Food Access Map Series, 7pm and 8pm- 5am (2024). Diagram by the authors.**

Next is Figure 3, at 7pm. The buses are concluding their routes except for one line. This map demonstrates the difficulty in food accessibility for those who are working and dependent on the public transit system in Jackson. The 60-minute frequencies exacerbate this challenge, making transportation to grocery stores in the evening marginally possible (depending on location/distance/time someone is off work), but without the ability to return from the grocery to their residence using the bus system.

The final in the temporal series is Figure 4, at 8pm-5am. This is the period of no bus access and limited food access. Grocery stores in Jackson open at 8 close at 9pm, excepting Kroger and Walmart, which close at 11pm.



**Figure 5. Weekly Temporal Food Access Diagram (2024). Diagram by the authors.**

The diagram created provides context to the transportation and temporal mapping series. It reveals the time of day food pantries tend to be accessible, and difficulty accessing food pantries for working individuals. The diagram reveals temporal accessibility gaps. One revealed gap is the lack of access to public transportation on the weekends. JTRAN schedules have limited hours on Saturdays, and no access on Sundays. Those wishing to use the Mississippi Farmers Market, which accepts SNAP and provides access to local produce, is not possible with the updated and current bus system. Also revealed are the limited evening hours. Accessing grocery stores with the bus system is highly limited if the individual is working. Individuals may be able to go to the grocery store as soon as they get off work but be unable to get back to their home or other location before the bus routes end.

## 4 DISCUSSION

Both systems and infrastructure are needed to strengthen the foodscape. One finding of this study is that landscape architects can utilize their expertise in spatial distribution, site design, and ability to influence public space to support local foodscapes and promote food resilience. Landscape architects should also recognize they are typically not experts in the local food production and security efforts, and partner with nonprofits and other organizations to support current action and needs.

Also critical to understanding the local food system is the regional food system. 90% of food eaten by Mississippians comes from outside of the state, despite it being a major agricultural state (Meter & Goldenberg, 2014). There is a predominance of commodity crops systems and support for smaller farming both federally and state-wide. Even if local food production increases in Jackson, the larger regional context of food production and food security will be a barrier and a framework that the local food production sits within. Grassroots efforts and changes are critical, but the wider industrial agricultural context will continue to impact Mississippi's food systems and food procurement without regional and national changes.

#### 4.1 Systems

Stemming from the inability to rely on the city and the state, food activism in Jackson must look to historical examples of food security and resilience provided outside of these means. Referenced in an interview was Frannie Lou Hamer's Freedom farms in Sunflower County, Mississippi. A current challenge is a lack of collective memory of food activism. As one interviewee stated, there is power in having a memory of what is being fought for. Conducting the interviews also revealed humans connect to the past to be able to visualize the future. Responses to the interview question "What do you imagine as a future for Jackson in the next 5 years and the next 25 years?" often prompted individuals to describe how Jackson is and has been before being able to visualize how Jackson can be. The MS Food Network Systems gathering in 2024 created a timeline of Mississippi's history from its native peoples to 60 years in the future, using the strategy of remembering the past alongside envisioning the future. This aspect of vision-making should continue to be utilized to envision future Jackson and how to accomplish it through emancipatory or community-led action.

Accomplishing food work also requires buy-in from communities and others working in the community. Outside of the transcript, the MS Food Network discussed how school backpack programs rely on buy in from schools and administration. They experienced schools rejecting food assistance, such as school backpack programs, which provide a bag of food for schoolchildren on weekends. On the other hand, they experienced school programs supplementing the program by adding more food and fresh foods. Buy-in from communities is critical to have systems that are successful, and so is understanding by individuals willing to host programming within their walls. The interviews also revealed relatively small numbers of people working on food security compared to the need and scale of food insecurity in Jackson and Mississippi as a whole. Multiple individuals interviewed cited being understaffed or accomplishing a great deal of food distribution with small numbers of people. Society of St. Andrew's gleans crops across the state with a staff of about two people. The MS Food Network is highly understaffed based on standards by Feeding America for comparative food banks. As many nonprofits are limited in the amount of time or money allocated to spreading awareness about themselves, recognition and engagement is important. The current work being done within Jackson should be supported, reinforced, and recognized for their efforts and sustained action.

#### 4.2 Infrastructure

Another finding was a high level of bus ridership in Jackson by the visually impaired and blind. This implicates a need for bus stops and systems to serve a variety of communities. Designers should continue to champion streetscapes that prioritize not only pedestrian infrastructure but accessible bus stops that make usage attractive and comfortable. There are some standards for the visually impaired in public infrastructure, but designers should continue to engage with those with disabilities and disability advocacy groups to make public infrastructure more accessible as the community may depend on, or even disproportionately use, it. Improving bus access has the chance to improve food access, job mobility, and the lives of every person who uses the bus system. This also addresses common misconceptions about the limited need of public transportation in car-centric cities, or attempts to dismiss it over unprofitability.

A revealed barrier for the Jackson bus system is a limit on the number of bags one can carry on JTRAN buses. There is a 3-bag limit. This ban is not listed in the code of conduct, "rules of the road," "how to ride," or any other codified article on the buses, but is currently enforced. Although there are likely legitimate reasons for this limit (not wanting to hold up the bus or take too much room), JTRAN buses are rarely if ever at capacity, and the limit reduces the usability of the system to get all the groceries needed. Lifting the bag ban would be a straightforward way to increase accessibility to groceries using the bus system. The uncoded nature of the "3 bag rule" also reminds that there may be hidden rules or barriers. Because of this, it can even be more difficult to undo because of unclear modes of action or people to address to rectify the issue.

Because of the political and social climate in Jackson, there is a hope and desire to see physical change and improvement in the city. Also revealed in the interviews was power and pride in local farming, with multiple interviewees referencing Footprint Farms as an inspiration. There was a belief in land work and the ability to heal generational trauma by reconnecting with the land revealed in the interviews and the MS Food Systems Gathering. Agriculture demonstration centers could establish a resource and example of

successful urban agriculture. However, there is no silver bullet to urban agriculture as it would be a difficult and labor-intensive process. Agriculture requires not only land but time, labor, water, and systems to be able to sell the produce. Funding, planning, and many parties would be needed to create agriculture demonstration centers across Jackson, but it could be one step to promoting access to local foods and increased food resilience.

## 5 CONCLUSION

The foodscape is both personal and collective. Interviews with those in food work unearthed personal stories and relationships to Jackson's foodscape that reveal collective challenges, strengths, and visions. These challenges include assumptions about food organizations and the populations they are serving, existing transportation and access barriers, lack of time, and lack of reliability across areas such as funding, staffing, the weather, and food pantry stability. Jackson's degraded water and road infrastructure and increasing needs for security due to increasing transience and out-migration are also major challenges. Finally, the relationship between the legislature or government and the city is revealed as a major source of difficulty and barrier to creating food security and resilience in Jackson.

Maps and diagrams revealed temporal inaccessibility and how it impacts food procurement, especially for vulnerable populations. Including, among others, individuals who are food insecure or depend on public transportation, such as those with limited car access or the visually impaired. Combined limited hours for Jackson's bus network and food pantries is compounded with the dividing infrastructural barriers such as railroad lines and interstates. Those interviewed describe strengths such as historic connection to Freedom farms and Freedom schools, the local farm Footprint Farms, and the arts. These strengths are sources of inspiration for those in Jackson, as well as aspects of the city that generate collaboration and dialogue. For the future, those interviewed hope for political unity, the creation of agricultural demonstration centers, and the overall improvement of living conditions in the city. Infrastructure such as public parks, community events, public transportation, and revitalized historic areas of Jackson were desired. Their ideas for the future demonstrate hope for Jackson and a collective will to invest in the city.

Further research on the foodscape is necessary for greater understanding of how to support communities and food organizations. More data-driven research is needed to understand the impacts of spatial and temporal interventions. Research could explore: What are the impacts to food security with greater spatial and/or temporal access to public transportation or food pantries? What are strategies to provide food security in the landscape that would be ecologically and culturally restorative, and not be abandoned? Ideally, landscape architects can partner with local food security organizations, and evaluate use and impacts of these interventions to understand best practice.

What will the next 60 years bring? It is hard to imagine 60 years into the future, because humans are not designed to be that forward thinking. However, landscape architects are crucial actors in visualizing an ecological future and working to make interventions to prepare for and benefit future generations. The profession designs site-scale interventions for today, in recognition that there will be impacts tomorrow. Landscape architects must also think at the same scale-and-systems approach for food security and resilience. As every individual moves towards an uncertain future, we must continue to draw inspiration from historical and local successes such as the Freedom Farm Cooperatives in Mississippi and the work being done by those interviewed for this study. Connections with local groups and food activists are a key to understanding the foodscape and being able to make tangible changes to it. As ecology, land, water, and infrastructure experience increased pressure, landscape architects and food activists can establish connections to work together to build a more equitable and livable future.

## REFERENCES

- Cobb, J. C. (1990). "Somebody Done Nailed Us on the Cross": Federal Farm and Welfare Policy and the Civil Rights Movement in the Mississippi Delta. *The Journal of American History*, 77(3), 912-936.
- Dai, D., & Wang, F. (2011). Geographic disparities in accessibility to food stores in southwest Mississippi. *Environment and Planning B: Planning and Design*, 38(4), 659-677.

- Desimini, J. (2014). From planned shrinkage to formerly urban: Staking landscape architecture's claim in the shrinking city debate. *Landscape Journal*, 33(1), 17-35.
- Dickins, D. (1928). A nutrition investigation of Negro tenants in the Yazoo Mississippi Delta. MAFES, Mississippi Agricultural and Forestry Experiment Station.
- Dickins, D. (1928). "Food and health" MAFES Research Bulletins. 449.  
<https://scholarsjunction.msstate.edu/mafes-bulletins/449>
- FAO. (1996). Rome Declaration on World Food Security. Report of the World Food Summit. FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS. Rome, IT. Retrieved from:  
<https://www.fao.org/3/w3613e/w3613e00.html>
- Feeding America. (2024). 2021 Food Insecurity.  
<https://map.feedingamerica.org/county/2021/overall/mississippi/county/hinds>
- Footprint Farms. (n.d.). <https://footprintfarmsms.com/>
- Frey, W. H. (1980). Black in-migration, white flight, and the changing economic base of the central city. *American Journal of Sociology*, 85(6), 1396-1417.
- Grim, V. (1994). The Impact of Mechanized Farming on Black Farm Families in the Rural South: A Study of Farm Life in the Brooks Farm Community, 1940-1970.
- Hammelman, C. (2018). Investigating connectivity in the urban food landscapes of migrant women facing food insecurity in Washington, DC. *Health & place*, 50, 89-97.  
<https://doi.org/10.1016/j.healthplace.2018.01.003>
- Hudak, K. M., Friedman, E., Johnson, J., & Benjamin-Neelon, S. E. (2020). Food bank donations in the United States: a landscape review of federal policies. *Nutrients*, 12(12), 3764.  
<https://doi.org/10.3390/nu12123764>
- HLPE. (2017). HLPE Report on Nutrition and Food Systems High Level Panel of Experts on Food Security and Nutrition Extract from the Report Nutrition and Food Systems 1–11. Nutrition and Food Systems.
- JTRAN Connect JXN Transit Plan Final Report (2022). Retrieved May, 2024 from:  
[https://www.jtrantransitplan.com/\\_files/ugd/e1a7c3\\_0fee909dc6ad407dad6d24af076bd10c.pdf](https://www.jtrantransitplan.com/_files/ugd/e1a7c3_0fee909dc6ad407dad6d24af076bd10c.pdf)
- JTRAN Fixed Service Guidelines. (2022). Retrieved May, 2024 from:  
[https://www.jtrantransitplan.com/\\_files/ugd/e1a7c3\\_3169a7d0e671441eabfd8171dc8e3aad.pdf](https://www.jtrantransitplan.com/_files/ugd/e1a7c3_3169a7d0e671441eabfd8171dc8e3aad.pdf)
- Knop, B., Foster, T., Marshall, & Bhaskar. (2023). Nearly One in Three Mississippians Eligible for Food Assistance. US Census Bureau. <https://www.census.gov/library/stories/2023/01/mississippians-eligible-for-food-assistance.html>
- Meng, Q. (2022). Urban water crisis causes significant public health diseases in Jackson, Mississippi USA: an initial study of geographic and racial health inequities. *Sustainability*, 14(24), 16325.  
<https://doi.org/10.3390/su142416325>
- Meng, Q. (2023). Urban water crisis and its relationship to health inequities against black communities in the USA: Spatial analytics of the Jackson region in Mississippi. *Journal of Cleaner Production*, 411, 137356. <https://doi.org/10.1016/j.jclepro.2023.137356>
- Meter, K., & Goldenberg, M. P. (2014). An Overview of the Mississippi Farm and Food Economy Produced for the Mississippi Food Policy Council with funds from Winrock International.  
[www.crcworks.org](http://www.crcworks.org)
- National Park Service. (2023). Myrlie's Garden. Medgar and Myrlie Evers Home National Monument.  
<https://www.nps.gov/places/myrlie-s-garden.htm>
- Smith, B. J. (2019). Building emancipatory food power: Freedom Farms, Rocky Acres, and the struggle for food justice. *Journal of Agriculture, Food Systems, and Community Development*, 8(4), 33-43.  
<https://doi.org/10.5304/jafscd.2019.084.009>
- Smith, M. T., & Hally, D. J. (1992). Chiefly behavior: evidence from sixteenth century Spanish accounts. *Archeological Papers of the American Anthropological Association*, 3(1), 99-109.
- Tendall, D. M., Joerin, J., Kopainsky, B., Edwards, P., Shreck, A., Le, Q. B., ... & Six, J. (2015). Food system resilience: Defining the concept. *Global food security*, 6, 17-23.  
<https://doi.org/10.1016/j.gfs.2015.08.001>
- Toukabri & Delbé. (2023). New 2022 Population Estimates Show Most Large Cities and Towns Grew Faster or Lost People at Slower Rate. US Census Bureau.  
<https://www.census.gov/library/stories/2023/05/large-cities-no-longer-biggest-population-losers.html>

- 
- US Census Bureau. (2023). Jackson city, Mississippi. Retrieved May, 2024 from:  
<https://www.census.gov/quickfacts/fact/table/jacksoncitymississippi/PST045222#qf-headnote-a>
- Vogliano, C., Raneri, J. E., Maelaua, J., Coad, J., Wham, C., & Burlingame, B. (2020). Assessing diet quality of indigenous food systems in three geographically distinct solomon islands sites (Melanesia, Pacific Islands). *Nutrients*, 13(1), 30. <https://doi.org/10.3390/nu13010030>
- Vonthron, S., Perrin, C., & Soulard, C. T. (2020). Foodscape: A scoping review and a research agenda for food security-related studies. *PloS one*, 15(5), e0233218.  
<https://doi.org/10.1371/journal.pone.0233218>
- Wesley, J., Dalbey, M., & Harris, W. M. (2005). Urban Segregation in the Deep South: Race, Education, and Planning Ethics in Jackson, Mississippi *Race, Gender, and Class*, Vol. 12, Issue 3, 11-30.
- Widener, M. J., & Shannon, J. (2014). When are food deserts? Integrating time into research on food accessibility. *Health & Place*, 30, 1–3. <https://doi.org/10.1016/J.HEALTHPLACE.2014.07.011>
- Xu, Y., Belyi, A., Bojic, I., & Ratti, C. (2018). Human mobility and socioeconomic status: Analysis of Singapore and Boston. *Computers, Environment and Urban Systems*, 72, 51-67.  
<https://doi.org/10.1016/j.compenvurbsys.2018.04.001>
- USDA. Supplemental Nutrition Assistance Program (SNAP) Supplemental Nutrition Assistance Program (SNAP) | Food and Nutrition Service ([usda.gov](https://www.usda.gov))