

Building Vibrant Communities with Large-Producing-Advanced Manufacturers

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I. EXECUTIVE SUMMARY

Are there benefits beyond jobs for ZIP codes with large-producing-advanced manufacturing facilities compared to ZIP codes without facilities?

Manufacturing in the United States has long been an opportunity for people to build better lives for themselves and their families. Access to higher-paying wages and benefits, including insurance and job training, create impacts that ripple beyond the individual to create community benefits. At the same time, manufacturing facilities can attract supporting businesses which further help to improve the community. Our analysis looks to understand these compounding impacts so that manufacturers, economic developers, and siting professionals can target new facilities in areas that create the most significant multiplier effect.

To answer this question, we look to large-producing-advanced manufacturers (LPAM) in Georgia and assess changes in surrounding ZIP codes from 2011-2019. We classified ZIP codes by income (high poverty) and by race (majority black and majority white). Because high poverty overlaps both majority black and white ZIP codes we further categorized the racial categories by poverty level. We look at sixteen indicators across five categories –

economic stability, education, health care access, neighborhood and built environment, and social/community context.

All LPAMs see improvements across most measures, with high poverty LPAMs improving in 8 measures, 11 for majority black, 9 for majority white, and 6 for majority white-high poverty. We find high poverty LPAMs have a 33% increased rate of change of residents working in non-low wage jobs, while majority black LPAMs have a 37% increase. Majority black LPAMs are the only communities that see an increase in the number of daycare facilities and grocery stores, and supermarkets. Majority white LPAMs see a 21% increase in employment within the community.

Our results demonstrate that large-producing-advanced manufacturers benefit communities beyond jobs, and that benefit is most acute in black and high-poverty communities. We believe this research helps those in the economic development community and policymakers looking to support further growth for Georgia communities.

Table 1 - Term Definitions

Large	More than 500 employees on site
Producing	On-site production of goods
Advanced	Manufacturers involved in technological innovation and STEM
LPAM	Large-Producing-Advanced Manufacturer

High poverty	More than 20% of the population lives below the poverty line ¹
Majority black	More than 51% of the population classified as black or African-American ¹
Majority white	More than 51% of the population classified as white ¹

¹ 2007-2011 American Community Survey

II. THE STATE OF MANUFACTURING IN GEORGIA

Since the Great Recession of 2007-2009, attention has been placed on bringing manufacturing jobs back to the United States. Part of this effort was the Advanced Manufacturing Partnership started in 2011, which brought together universities, manufacturers, and several federal offices, including the National Economic Council and the Office of Science and Technology. The partnership aimed to build domestic production around national security, advanced materials, and robotics.

Georgia has put a lot of effort into improving manufacturing in the state. This

includes tax incentives, new training programs, and funding for research and development. These incentives have paid off. In 2019, output from manufacturing was nearly \$193 billion, 17% of the total output for the state. Across Georgia, manufacturing employees over 435,000 with an average compensation of \$72,787, which is 7% higher than the state average. The total employee compensation adds \$29.8 billion to the Georgia economy. In addition, it is estimated that manufacturing adds \$1.7 billion of taxes on production and imports less subsidies (TOPI) into the Georgia economy.

Output

- \$193,000,000,000
- 17% of the State's total output



Employment

- 435,000
- \$72,787 (Average Compensation)

Benefit to Economy

- \$29,000,000,000 (from employee compensation)
- \$1,700,000,000 (in taxes)



Table 2. All variables and data

		High Poverty		Majority Black		Majority White			
		LPAM	No LPAM	LPAM ¹	No LPAM	LPAM	LPAMHP	No LPAM	
	Total Population	2011	225,196	2,366,447	112,165	1,914,572	657,240	113,031	6,437,638
		2019	224,110	2,390,999	105,008	2,017,315	733,666	119,102	7,017,082
		RoC ²	0%	1%	-6%	5%	12%	5%	9%
	Businesses (Per Capita)	2011	236	208	158	174	242	312	230
		2019	245	213	159	173	250	321	238
		RoC	4%	2%	1%	-1%	3%	3%	4%
	Small Businesses (Per Capita)	2011	674	531	458	464	678	900	584
		2019	1060	843	661	716	1133	1413	1054
		RoC	57%	59%	44%	54%	67%	57%	81%
Economic Stability	Employment in Area (Total)	2011	113,412	1,071,967	35,281	798,922	280,033	78,131	2,393,617
		2019	124,352	1,146,546	37,103	888,095	339,093	87,249	2,835,136
		RoC	10%	7%	5%	11%	21%	12%	18%
	Employed Working-Age Residents (Percent)	2011	89%	88%	87%	86%	91%	91%	91%
		2019	92%	92%	90%	91%	95%	94%	95%
		RoC	4%	5%	3%	7%	4%	4%	4%
	Residents Employed within the Community They Reside (Percent)	2011	24%	50%	14%	41%	25%	33%	68%
		2019	23%	46%	14%	38%	25%	31%	69%
		RoC	-1%	-8%	2%	-6%	-2%	-8%	0%
	Residents Working in Non-Low Wage Jobs (Percent)	2011	24%	25%	20%	28%	38%	28%	38%
		2019	32%	34%	28%	36%	45%	35%	47%
		RoC	33%	37%	37%	25%	19%	26%	23%
Education Access	Child Day Care Facilities (Per Capita)	2011	2.7	2.8	2.9	3.2	2.1	2.6	2.2
		2019	2.7	2.1	3.0	2.8	1.9	2.4	1.7
		RoC	-1%	-24%	7%	-11%	-8%	-8%	-24%
	Educational Services (Per Capita)	2011	2.1	1.8	0.9	2.1	3.0	3.4	3.0
		2019	1.6	1.7	0.4	1.9	3.2	2.7	3.1
		RoC	-25%	-8%	-57%	-11%	8%	-20%	2%
Health Care Access	Residents with Insurance (Percent)	2011	78%	77%	80%	78%	83%	77%	83%
		2019	84%	84%	85%	85%	87%	82%	88%
		RoC	7%	9%	7%	9%	6%	6%	6%
	Offices of Physicians (Per Capita)	2011	9.8	7.0	1.2	6.0	10.4	18.4	7.3
		2019	10.1	6.1	1.0	5.2	10.9	18.1	7.5
		RoC	3%	-13%	-10%	-14%	5%	-1%	2%
	Nursing and Residential Care Facilities (Per Capita)	2011	1.9	2.0	1.9	1.6	1.5	1.9	1.6
		2019	2.3	1.7	3.0	1.7	1.5	1.8	1.4
		RoC	22%	-15%	58%	7%	-2%	-9%	-11%
Neighborhood & Built Environment	Cost-Burdened Households (Percent)	2011	42%	40%	43%	45%	35%	42%	34%
		2019	38%	35%	40%	39%	30%	36%	28%
		RoC	-10%	-12%	-7%	-14%	-15%	-13%	-19%
	Owner-Occupied Homes (Percent)	2011	58%	58%	61%	58%	69%	55%	70%
		2019	53%	54%	53%	52%	66%	52%	67%
		RoC	-10%	-6%	-13%	-10%	-5%	-6%	-4%
	Commercial Banking Facilities	2011	4.7	4.1	2.4	3.0	4.4	6.9	3.8
		2019	3.7	2.8	1.8	1.9	3.6	5.4	2.9
		RoC	-21%	-31%	-25%	-36%	-18%	-22%	-24%
Social & Community Context	Supermarkets and Other Grocery (Except Convenience Stores)	2011	2.8	2.5	2.9	2.0	1.9	2.7	1.7
		2019	2.7	1.6	3.0	1.2	1.6	2.4	1.2
		RoC	-3%	-37%	7%	-41%	-15%	-11%	-28%
	Support Systems (Per Capita)	2011	10.2	10.9	7.9	8.3	10.0	12.4	8.7
		2019	9.7	10.7	7.4	7.5	8.9	11.8	8.4
		RoC	-4%	-1%	-6%	-10%	-11%	-5%	-3%
	Arts and Entertainment Facilities (Per Capita)	2011	1.9	2.4	0.9	2.2	2.8	2.9	2.9
		2019	1.9	2.9	1.0	2.7	3.4	2.6	3.5
		RoC	-2%	19%	17%	27%	22%	-11%	21%
	Restaurants (Per Capita)	2011	20.6	17.4	15.8	15.2	18.1	25.3	17.3
		2019	23.2	19.6	16.9	16.2	20.1	28.8	19.0
		RoC	13%	13%	7%	7%	12%	14%	10%

¹ All majority black LPAMs are high poverty

² RoC = Rate of Change from 2011-2019

III. DEFINING

This report defines large-producing-advanced manufacturers (LPAM) as those employing more than 500 employees at a facility that creates products on site for advanced industries – see Appendix for analytic method. Based on this definition, Georgia has 34 large-producing-advanced manufacturers, which include a broad range of industries (chemicals, clay products, machinery, electric lighting equipment, household appliances, motor vehicles, aerospace products and parts, and medical equipment and supplies). LPAM facilities have approximately 34,000 employees.

To understand the impact of LPAMs on the broader community, we classified the ZIP codes of the facilities' locations as high poverty (Figure 1), majority black (Figure 2), and majority white (Figure 3). Based on data from the American Community Survey (ACS 2007- 2011), ten high poverty,

four majority black, and 24 majority ZIP codes have LPAMs. Of these, 100% of the majority black and 25% of the majority white ZIPs with LPAMs are also classified as high poverty (Table 3).

To understand the trends in benefits from LPAMs, we focused on five categories – economic stability, education access, health care access, neighborhood & built environment, and social & community context. We used various data sources for this analysis, including American Community Survey (ACS), Local Employment and Housing Dynamics (LEHD), and County Business Patterns (CBP) – see Appendix for details. Finally, we analyze each indicator's rate of change between 2011-2019. (Indicators and data in Table 2)

		High Poverty		Majority Black		Majority White		
		LPAM	No LPAM	LPAM*	No LPAM	LPAM	LPAM High Poverty (HP)	No LPAM
Total ZIP codes	2011	10	281	4	129	24	6	577
Total Population	2011	225,196	2,366,447	112,165	1,914,572	657,240	113,031	6,437,638
	2019	224,110	2,390,999	105,008	2,017,315	733,666	119,102	7,017,082
	Rate of Change (RoC)	0%	1%	-6%	5%	12%	5%	9%

* All majority black LPAMs are high poverty

Table 3. ZIP Classification

Figure 1. High Poverty ZIP Codes in Georgia

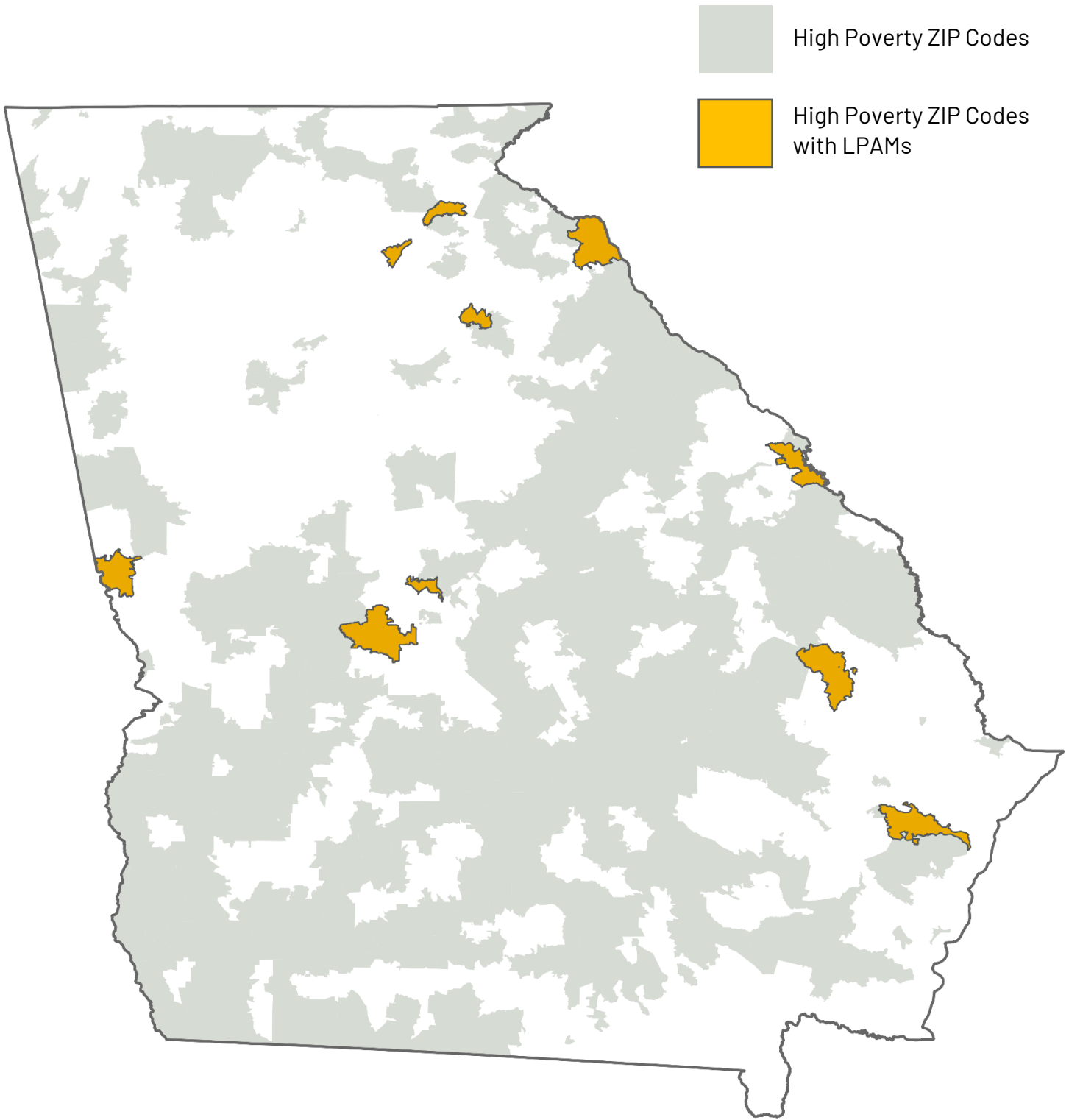


Figure 2. Majority Black ZIP Codes in Georgia

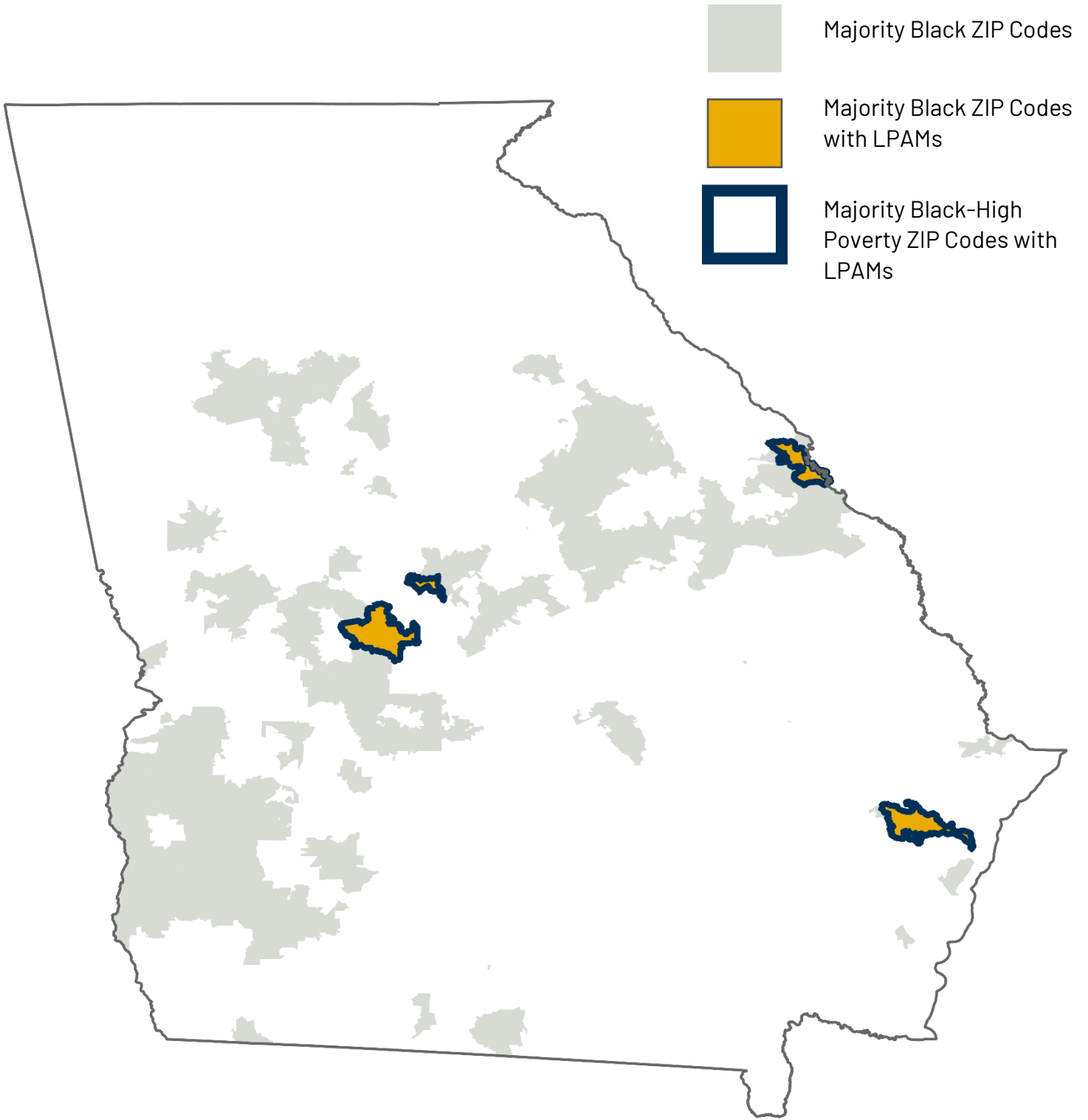
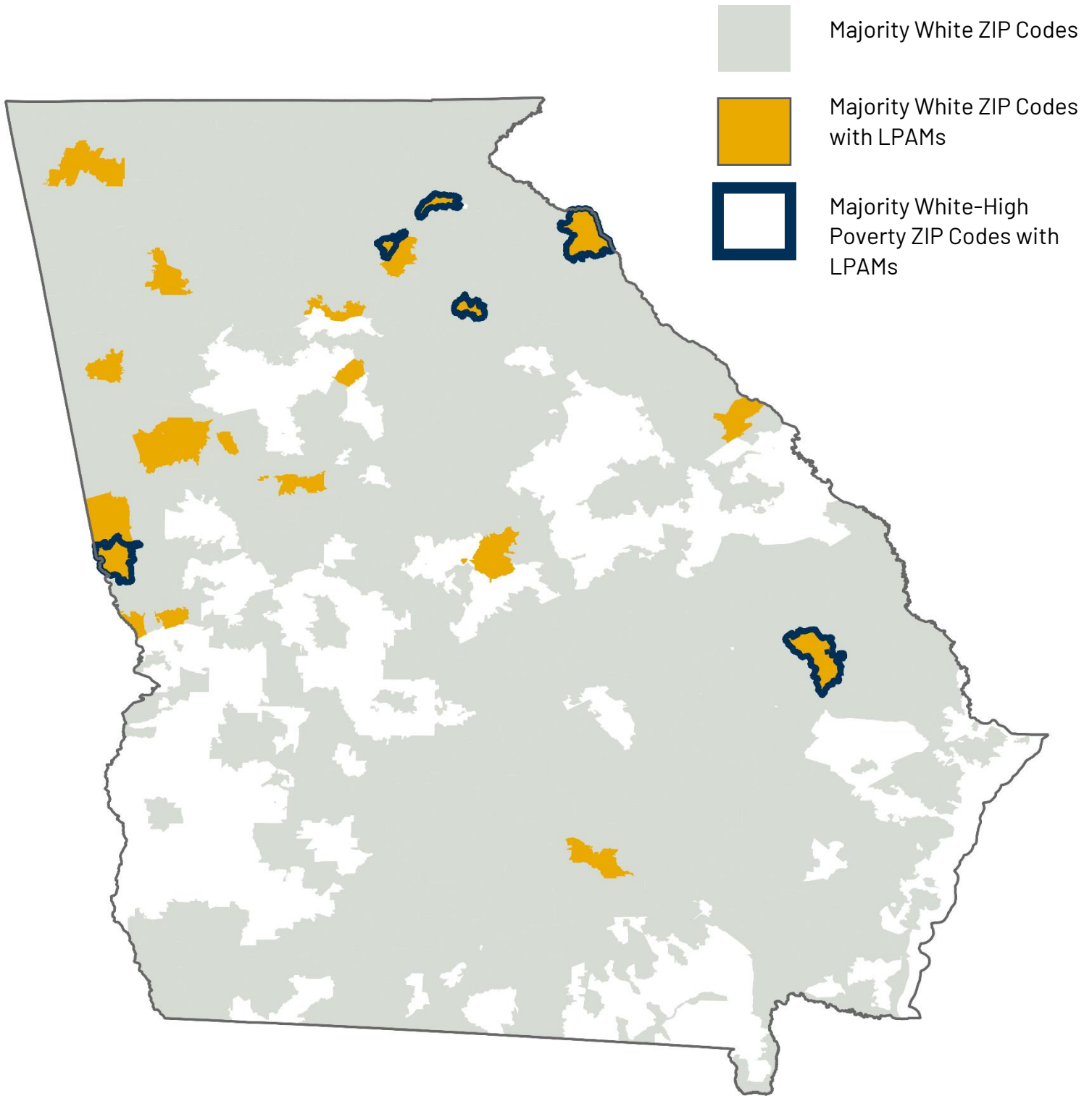


Figure 3. Majority White ZIP Codes in Georgia



IV. TRENDS IN ZIP CODES WITH LARGE-PRODUCING-ADVANCED MANUFACTURERS

ECONOMIC STABILITY

Employment in Area

Economic stability for a community means greater access to local employment over time. Between 2011-2019, all high poverty, majority black, and majority white LPAM communities saw an increase in employment. Both **high poverty and majority white LPAM saw a more significant employment increase than non-LPAM areas**. Only majority black LPAM and majority white-high poverty saw a lower increase than the non-LPAM areas.

Employed Residents

While employment in an area is an essential indicator of economic stability, the community's economic stability remains precarious if the residential population does not have access to those jobs.

To analyze residential employment, we looked at the percent of the employed local civilian population participating in the labor market. In 2011, we found that only majority white areas saw employment rates over 90%. By 2019, all geographies

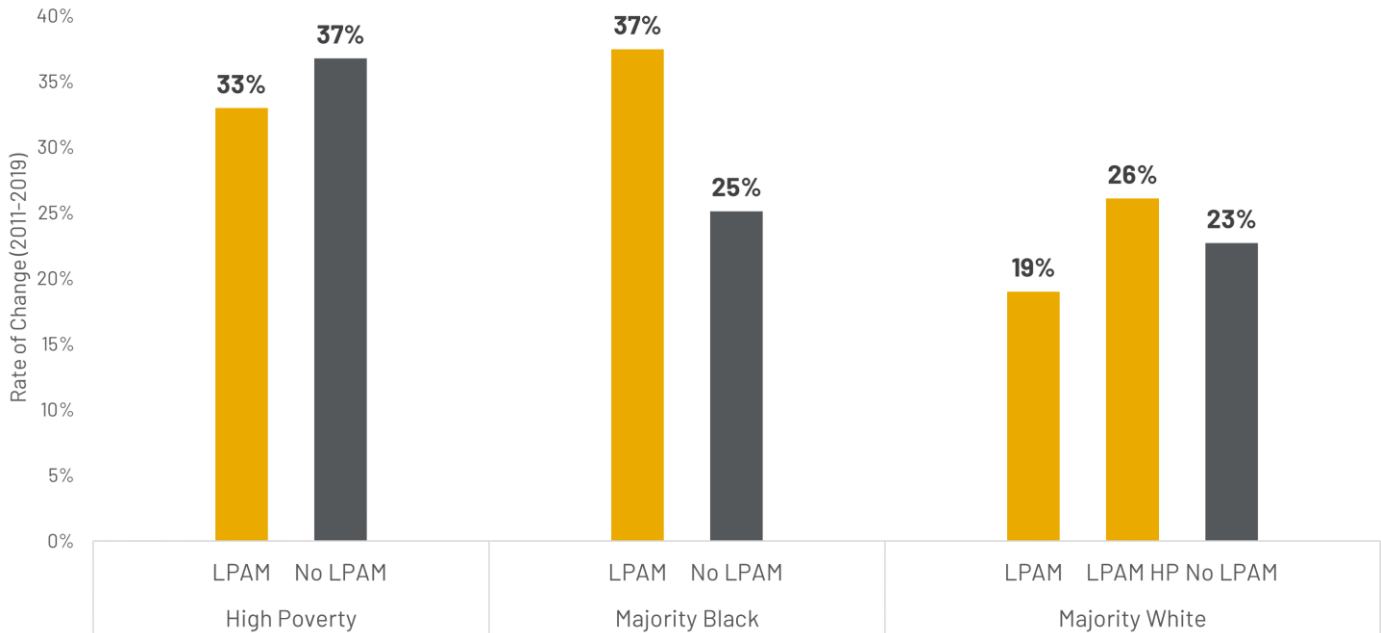
rose to 90% or above. The highest rate of change was for majority black non-LPAMs at 7%, while **majority black LPAM, high poverty LPAM, and all majority white areas saw similar rates of change between 3-4%**.

Residents Employed Within the Community They Reside

Understanding if residents find work within their community is crucial due to the many compounding benefits of local hiring. For example, employees are less burdened by the high cost of time and money from long-distance commutes by working within their own community. At the same time, increased time in their community equates to additional money circulating in the local economy through shopping, dining, and other day-to-day needs.

To study local employment, we calculate the number of residents employed and living in the selection area. In 2019, we found LPAM communities have a smaller amount of their workforce living within the local community (high poverty = 23%; majority black = 14%; majority white = 25%; majority white and high poverty =

Figure 4. Rate of Change of Residents Working in Non-Low Wage Jobs



31%) compared to non-LPAM areas. In addition, while the numbers for employment within the community remain low, we found **majority black LPAMs are the only communities with increased local hiring compared with all other areas, which saw decreasing numbers.**

Residents Working in Non-Low Wage Jobs

Increased local employment does not translate to improved economic stability if workers can only access low-income jobs. Low-wage jobs come with a long list of challenges for employees, including lack of reliable transportation, lack of childcare, and lower health outcomes (Center for Law and Policy 2019). Besides helping stabilize individuals, moderate wage incomes can translate into more money in the local economy.

To understand this measure, we looked at the percentage of residents in an area earning more than \$3333 per month (approximately \$40,000 per year). In 2011, all black and majority white-high poverty areas had less than 30% of workers earning more than \$3333 per month, while majority white (except high poverty) areas had 38% of workers classified as non-low wage workers. All areas increased between 2011 and 2019, with the **most significant improvement in majority black LPAM** with a rate of change of 37% compared to other LPAMs with 33% for high poverty, 19% for majority white, and 26% for white and high poverty. (Figure 4)

COMMUNITY CASE STUDY: CORNELIA, GEORGIA

Cornelia, Georgia, located in Habersham County, and located 80 miles northeast of Atlanta, Cornelia boasts a remarkable blend of robust business enterprises and diverse cultural resources. Cornelia's industrial significance is underscored by the presence of Ethicon, a Johnson & Johnson subsidiary. Since its establishment in 1947, Ethicon has become a cornerstone of the local manufacturing landscape. The company is renowned for producing a significant portion of the world's surgical sutures. Its enduring success and contribution to the healthcare sector have propelled Cornelia's economy, culminating in a higher concentration of businesses per capita compared to the state of Georgia.

- Cornelia boasts 2.7 daycare facilities per capita, surpassing Georgia's average of 2.0, emphasizing the community's commitment to family support and child development.
- With 31.1 restaurants per capita, Cornelia outpaces Georgia's average of 18.7, showcasing a vibrant culinary scene that benefits from both local and visitor patronage.
- The presence of 15.6 support systems per capita in Cornelia significantly exceeds Georgia's average of 8.3, underlining the town's commitment to fostering a supportive environment for businesses and residents.
- With 2.7 supermarkets per capita, Cornelia's convenience and accessibility for residents far surpasses Georgia's average of 1.3, ensuring a well-supplied community.
- An impressive 8.2 commercial banks per capita in Cornelia contrasts with Georgia's average of 2.7, reflecting a strong financial infrastructure that supports both individual and business financial needs.

The success of Cornelia's manufacturing sector has enabled the community to cultivate a rich cultural tapestry. The town's commitment to offering recreational spaces is evident in its expansive city park system, which includes amenities like a skateboard park, a splash pad at the Depot, walking trails at Cornelia City Park, and the Club Canine dog park. At the same time, Cornelia's historical legacy is preserved through its museums. Notably, the Standard Telephone Museum celebrates the town's early role in the independent telephone industry while the Regional African American Museum of Northeast Georgia honors the culture and heritage of African Americans in the region. Finally, Cornelia houses the world's largest collection of Elvis items at the Loudermilk Boarding House.

Cornelia, GA, serves as an example of how a strong manufacturing base can contribute to a thriving economy and an enriched cultural environment. The town's partnership with Ethicon and the subsequent business growth have not only bolstered its economic prospects but also enabled the development of diverse cultural resources.

EDUCATION ACCESS

Day Care Facilities

Early childhood care and education have both an impact on youth as well as their adult caregivers. Regular care ensures children's cognitive and physical needs are met, expanding their long-term educational opportunities. In addition, improved education translates to a more robust workforce. Access to early childhood education facilities stabilizes parents' job stability by reducing work absenteeism and tardiness for adult caregivers.

To understand access to early childhood education facilities, we analyzed the number of daycare facilities per 10,000 residential population. In 2011 majority black non-LPAMs had the highest per capita, with 3.2 facilities per 10,000 population. All other areas had between 2-3 facilities per 10,000 residents. By 2019, **majority black LPAMs were the only increasing rate of change** while all other areas decreased their density.

Educational Services

Having access to educational services have a long list of benefits. Grade school education increases employment opportunities and higher income, improving the general economy. Technical schools strengthen the local workforce, while exam preparation and tutoring programs can better prepare students for college.

To analyze educational services, we looked at the number of facilities per 10,000 residential population. Educational services included K-12 schools, colleges and universities, computer training programs, technical schools, exam preparation and tutoring programs, and other educational support services.

In 2011, majority black LPAM communities had the lowest number of educational services at 0.9 per 10,000 compared to the highest in majority white and high poverty at 3.4 per 10,000. By 2019, all areas except majority white (excluding high poverty) saw a decrease in available educational services. **Conversely, majority white LPAMs saw an increase of 8%.**

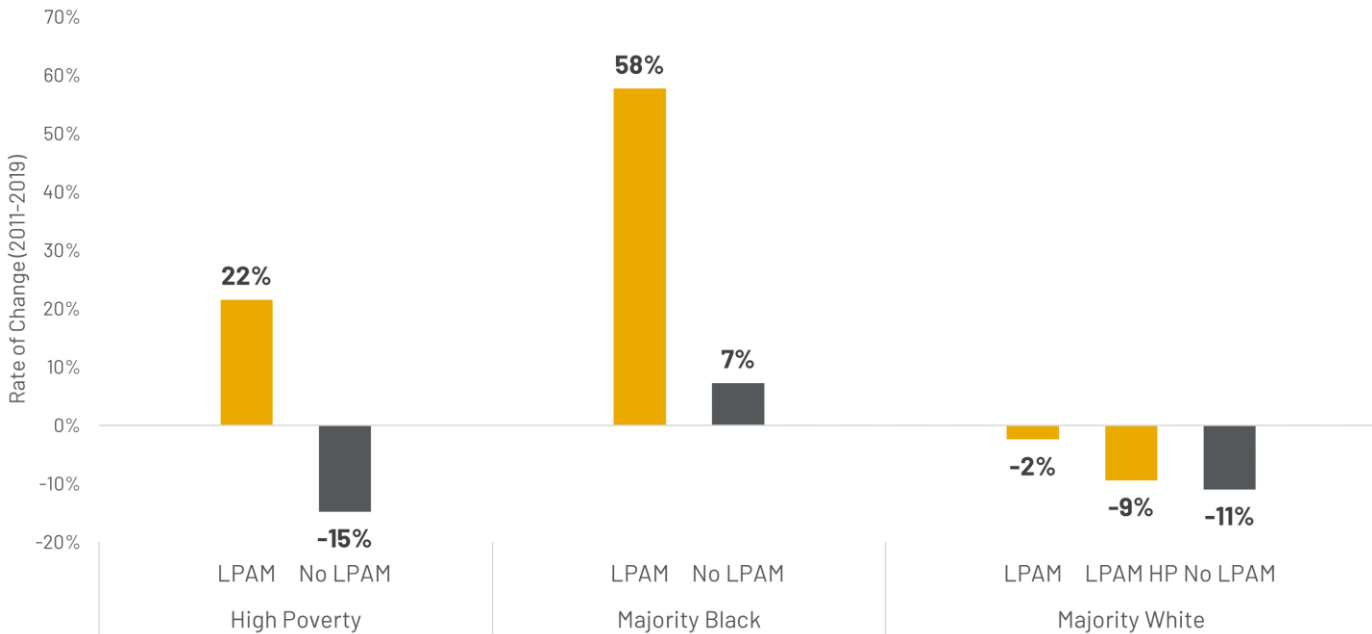
HEALTH CARE ACCESS

Residents with Insurance

Health insurance has several benefits. First, insurance assures people access to a regular health care provider, which ensures long-term health benefits, including reduced risk of disease and lower death rates. In addition, better health outcomes lead to greater work productivity and improved financial health, which translates into lower costs for the broader health care system, which shoulders the financial burden of the uninsured.

To analyze insurance, we looked at the percentage of the residential population with insurance. In 2011, all high poverty areas, majority black non-LPAMs, and majority white and high poverty LPAMs

Figure 5. Rate of Change of Nursing & Residential Care Facilities



had less than 80% health insurance rates. However, majority black LPAM and all majority white were 80% and above. By 2019, the rates were similar across all ZIP codes, with high poverty at 84%, majority black at 85%, and majority white at 87-88%. **All areas saw an increase in the percentage of the population with insurance**, with the most significant improvement in high poverty and majority black non-LPAMs.

Health Care Facilities

Health insurance is essential but does not do any good without access to medical facilities. Furthermore, studies show that reduced access to health services increases the risk of poor health outcomes.

We looked at the number of health care and social assistance facilities per 10,000 residential population. First, we looked at the number of physician offices and found

wide-ranging availability. In 2011, majority black LPAMs had the lowest amount at 1.2 per 10,000 residents compared to the highest in majority white-high poverty at 18.4 per 10,000. By 2019, **high poverty and white majority LPAMs and majority white non-LPAMs saw an increasing rate of change** while high poverty non-LPAMs, all majority black and majority white-high poverty, saw decreases.

Another measure of health care facilities we used was the number of nursing and residential care facilities, which includes nursing care facilities, residential intellectual and developmental disability facilities, mental health and substance abuse facilities, retirement communities, and assisted living facilities. In 2011, all areas had between 1.5-2.0 facilities per 10,000. By 2019 only one area, majority black LPAMs, reached 3.0 facilities per 10,000. **High poverty LPAMs and all**

majority black areas increased the number of nursing and residential care facilities, with majority black LPAMs increasing by 58%. All other areas saw a decreasing rate of change between 2011 and 2019 (Figure 5).

NEIGHBORHOOD & BUILT ENVIRONMENT

Cost-Burdened Households

Neighborhood stability depends on housing stability which becomes precarious as residents must spend more of their income maintaining their households. In addition, those households burdened by housing costs find it more challenging to pay for food, clothing, and medical care.

To calculate cost-burdened households, we used the percentage of renters and homeowners that paid more than 30% of their income towards housing. The cost of housing included rent or mortgage, utilities, condominium and homeowner association fees, taxes, and insurance. In 2011, all high poverty and majority black areas had more than 40% of the population classified as cost-burdened households while majority white communities were approximately 34-35% housing burdened. By 2019, **all communities saw a decrease in cost-burdened households**, with majority white non-LPAM seeing the most significant decline at 19%, while majority black LPAM saw the smallest decline at 7%.

Owner-Occupied Homes

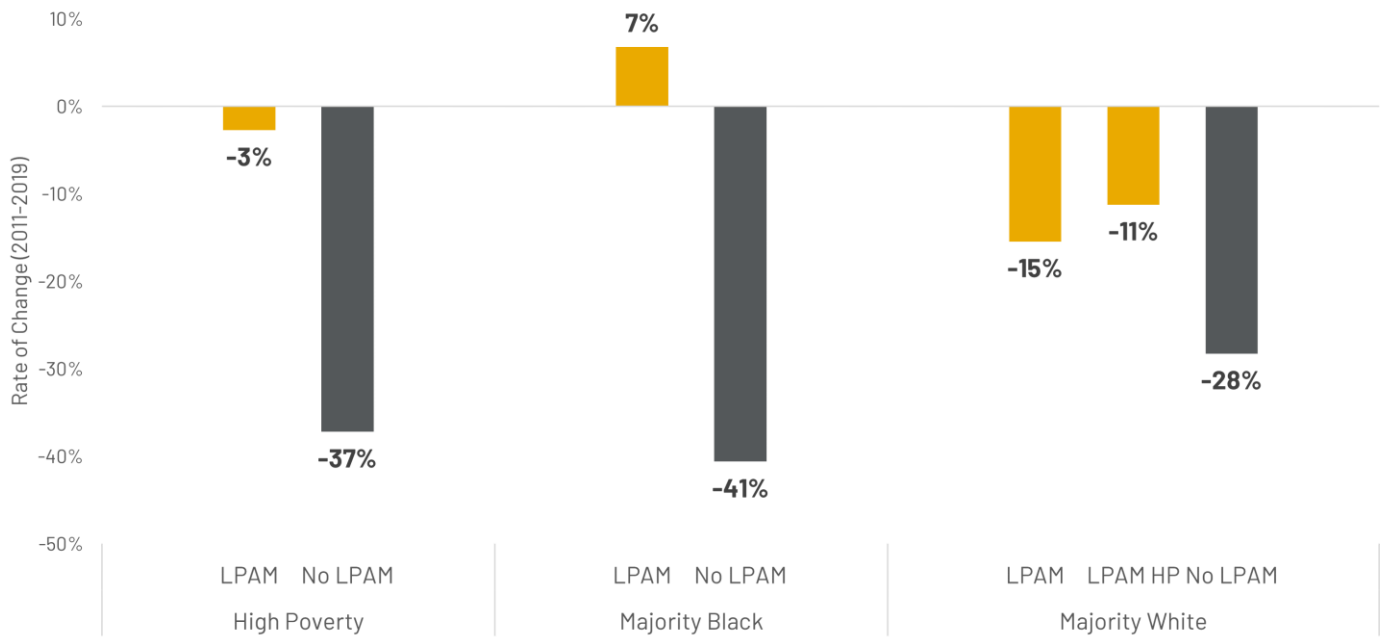
Neighborhoods where people live, have many impacts on their life. An essential aspect of a strong community is having many homeowners because homeowners are less likely to move than renters. In addition, as people become more rooted in their community, they are more likely to participate in community activities, including local schools and community engagement.

To determine owner-occupied housing, we looked at the percentage of homes in the ZIP code occupied by owners. In 2011, all high poverty and majority black communities saw a homeownership rate of around 60%, while majority white was around 70%. All communities saw a drop in owner-occupied housing with high poverty and majority black and majority white-high poverty falling to around half the population. **Majority black LPAM saw the most significant drop at 13%, while majority white non-LPAM saw the smallest drop at 4%.**

Commercial Banking Facilities

Having access to banking facilities is essential for a vibrant community. For example, saving and investing without banking facilities is challenging, translating into difficulties turning income into wealth-generating opportunities like home ownership. In addition, increased wealth generation improves local and national economies through increased economic activity and revenue for banks and local retail establishments.

Figure 6. Rate of Change of Supermarkets and Other Grocery Stores



To understand financial inclusion, we analyzed the number of commercial banking facilities per 10,000 residential population. Facilities included commercial banking, savings institutions, and credit unions. In 2011, majority black neighborhoods had the lowest rate while majority white-high poverty LPAMs had the highest at 6.9 per 10,000 residents. **All communities saw a decreasing rate of change, with all non-LPAM having a more significant decrease than their LPAM counterparts.**

SOCIAL AND COMMUNITY CONTEXT

Grocery Stores

Grocery stores ensure communities have access to healthy and affordable food, decreasing diseases like diabetes and

heart disease. These chronic conditions reduce workers' productivity and drain the health care system.

To understand food accessibility, we looked at the number of supermarkets and grocery stores (excluding convenience stores) per 10,000 residential population. We found that high poverty, majority black, and majority white-high poverty LPAMs had the highest density in 2011. By 2019, all communities, except majority black LPAM, decreased their density of grocery stores. **Majority black LPAM increases by 7%, while high poverty and majority white LPAMs decrease slower than their non-LPAM counterparts.**

(Figure 6)

Support Systems

Support Systems are necessary for people of all ages. For youth, social support networks support mental health, which

COMMUNITY CASE STUDY: GAINESVILLE, GEORGIA

In 1988, Kubota Manufacturing decided to establish Gainesville, GA, as its primary base of operations in America. Fast forward to 2020, this notable Japanese manufacturing company has become a significant employer in Gainesville, offering jobs to approximately 1,000 locals. But Kubota's impact transcends just employment; it catalyzed significant growth across numerous sectors.

Gainesville's 30501 ZCTA has consistently demonstrated an economic performance that mirrors and often surpasses state averages.

- For instance, when examining the educational sector, Gainesville has 5.8 educational services per capita which is notably higher than Georgia's average of 2.8. In the realm of gastronomy, Gainesville is a culinary hotspot. With 42.4 restaurants per capita, it significantly outshines Georgia's 18.7, offering residents and visitors an expansive variety of dining experiences.
- Support systems in Gainesville, standing at 14.1 per capita, provide comprehensive assistance to its community members, vastly overshadowing the state average 8.3. The retail scene is also noteworthy. Boasting 5.8 supermarkets per capita, compared to Georgia's 1.3.
- Gainesville's financial landscape is also thriving. The city has 9.0 commercial banks per capita, considerably more than Georgia's 2.7, suggesting a robust financial infrastructure and accessibility for its citizens.
- Healthcare, another crucial sector, has seen significant growth in the city. Gainesville is home to 37.6 doctor's offices per capita and 2.9 nursing/residential care facilities, dwarfing Georgia's numbers of 7.2 and 1.5, respectively. This indicates the city's commitment to ensuring optimal health and care for its residents.
- Finally, The city offers 4.8 arts and entertainment facilities per capita, compared to Georgia's 3.3, making it a cultural hub for residents and visitors alike.

Beyond Gainesville, Kubota's dedication to Georgia is reflected in its expansion. The company now operates five manufacturing sites across the state, employing over 3,000 individuals. This sustained growth underscores Kubota's ongoing investment and the region's potent workforce development. The company's Vice President emphasizes the pivotal role of initiatives such as the Work Based Learning programs in high schools, the extensive skill training spearheaded by the Technical College System of Georgia, and the advanced engineering programs championed by the University System of Georgia. These collaborative efforts have undoubtedly facilitated Kubota's expansive employment across the state.

reduces risk behaviors. For senior populations, support systems help challenge the feeling of isolation.

For this report, we looked at the number of support systems per 10,000 residential population. Support systems included religious, grantmaking, civic, professional, and similar organizations. In 2011, all high poverty and majority white LPAM had around ten support systems per 10,000 people, while all majority black areas had around 8 per 10,000. **Across all geographies, we see a decline in support systems, with the most significant decline in majority white LPAMs (11%). High poverty non-LPAMs saw the smallest decline (1%).**

Arts and Entertainment Facilities

Arts and entertainment facilities are essential for building the vibrancy of a community. These types of facilities can stimulate economic growth through employment and retail sales. They also have the potential to drive tourism into communities.

To analyze the arts and entertainment industry, we looked at the number of facilities per 10,000 residential population. This category includes performing arts,

spectator sports, museums, and amusement parks. We found that in 2011, majority black LPAMs had one facility per 10,000 compared to all majority white at nearly three facilities per 10,000. By 2019, the only communities that saw a decrease were high poverty and majority white-high poverty LPAMs. **The most significant increase was for majority black non-LPAMs at 27%, while majority white LPAMs saw an increase of 22%.**

Restaurants

Restaurants are not only local places to eat but also an important economic driver within communities. They tend to hire people within the immediate community, support the local supply chain, build a sense of community, and can act as tourist attractions (Independent Restaurant Coalition 2015).

To understand the restaurant industry, we looked at the density of restaurants within a community. We found that in 2011 and 2019, LPAM communities had higher restaurant density than their corresponding non-LPAMs, with the highest density in majority white-high poverty LPAMs. **In addition, all communities saw an increase in restaurant density.**

Positive Outcomes

		Indicate Positive Rate of Change								
		High Poverty		Majority Black		Majority White				
		LPAM	No LPAM	LPAM	No LPAM	LPAM	LPAM HP	No LPAM		
Economic Stability	Employment in Area	Larger increase than non-LPAM					Larger increase than non-LPAM			
	Employed Working-Age Resident				Largest RoC					
	Residents Employed within the Community They Reside									
	Residents Working in Non-Low Wage Jobs			Largest RoC						
Education Access	Child Day Care Facilities									
	Educational Services									
Health Care Access	Residents with Insurance									
	Offices of Physicians									
	Nursing and Residential Care Facilities			Largest RoC						
Neighborhood & Built Environment	Cost-Burdened Households							Largest RoC		
	Owner-Occupied Homes									
	Commercial Banking Facilities									
Social & Community Context	Supermarkets and Other Grocery									
	Support Systems									
	Arts and Entertainment Facilities				Largest RoC					
	Restaurants									

Negative Outcomes

		Indicate Negative Rate of Change								
		High Poverty		Majority Black		Majority White				
		LPAM	No LPAM	LPAM	No LPAM	LPAM	LPAM HP	No LPAM		
Economic Stability	Employment in Area									
	Employed Working-Age Resident									
	Residents Employed within the Community They Reside									
	Residents Working in Non-Low Wage Jobs									
Education Access	Child Day Care Facilities									
	Educational Services									
Health Care Access	Residents with Insurance									
	Offices of Physicians									
	Nursing and Residential Care Facilities									
Neighborhood & Built Environment	Cost-Burdened Households									
	Owner-Occupied Homes									
	Commercial Banking Facilities		Larger decrease than LPAM		Larger decrease than LPAM			Larger decrease than LPAM		
Social & Community Context	Supermarkets and Other Grocery									
	Support Systems									
	Arts and Entertainment Facilities									
	Restaurants									

Table 4 - Positive and Negative Outcomes

V. STRATEGIES FOR CREATING VIBRANT COMMUNITIES

This report demonstrates the benefits of LPAM communities (Table 4).

- In economic stability, high poverty and majority white LPAMs saw more significant increases than their non-LPAM counterparts in local employment. At the same time, majority black LPAM saw the most significant increase in residents working non-low wage jobs. Finally, all communities had more than 90% employment by 2019.
- Within education access, majority black LPAM saw an increase in the number of child daycare facilities.
- In terms of health care access, all communities in 2019 increased to more than 80% of the population with health insurance. Majority black communities saw the most significant rate of change in the number of nursing and residential care facilities. In 2019, high poverty, majority white, and majority white-high poverty all saw more than ten physician offices per 10,000 residents.
- In neighborhood and built environment, all communities saw a decrease in the number of cost-burdened households.
- Within the category of social and community context, majority black

LPAM saw an increase in the number of supermarkets and grocery stores. In addition, majority black and white LPAMs both saw increased arts and entertainment facilities.

While the benefits are clear, there are still challenges that face LPAM communities which can be seen in both a low rate (Table 2) and decreasing rate of change (Table 4).

- In economic stability, high poverty, majority white, and majority white-high poverty all saw a decrease in the number of residents employed within the community they reside. While majority black saw an increase in the number of residents employed within the community, that number was 14% in 2019 compared to 31% in majority white-high poverty.
- In education, all communities, except majority black LPAM, saw a decrease in childcare facilities. All LPAM communities, except majority white, saw a decrease in educational services. In 2019, majority black LPAMs, had only 0.4 educational services facilities per 10,000 compared to 3.2 per 10,000 in majority white LPAMs.
- In health care access, majority black and majority white-high poverty

LPAMs saw a decrease in the number of physicians' offices. In addition, majority black LPAMs in 2019 had 1.0 facilities per 10,000 compared to majority white-high poverty LPAMs at 18.1 per 10,000. Finally, majority white and white-high poverty LPAMs saw a decrease in the nursing and residential care facilities.

- Within the neighborhood and built environment category, all communities saw a decrease in owner-occupied homes and commercial banking facilities. At the same time, while all communities saw an improvement in the percent of cost-burdened households, majority black LPAMs only had a decreasing rate of change of 7% compared to majority

white LPAMs at 15%, and majority white non-LPAMs at 19%.

- In social and community context, all communities except majority black LPAMs saw a decrease in supermarkets. At the same time, in 2019, majority white LPAMs had nearly half the number of grocery facilities per capita (1.6) compared to majority black LPAMs (3.0). Finally, all communities saw a decrease in support systems.

To support communities with new and existing LPAMs, we created a list of policy prescriptions (Table 5) that can lead to improved outcomes. Overtime, community improvements can be benchmarked against this analysis.

Policy Suggestions	Large-Producing-Advanced Manufacturers			
	High Poverty	Majority Black	Majority White	Majority White-High Poverty
Increase local employment through incentives and job training programs	Shaded	Shaded	Shaded	Shaded
Support the location of childcare facilities in LPAM communities	Shaded		Shaded	
Support an expansion of educational services near LPAMs		Shaded		
Support incentives to place physician offices near LPAMs		Shaded		Shaded
Support incentives to place nursing and residential care facilities near LPAMs			Shaded	Shaded
Support programs that lead to homeownership	Shaded	Shaded	Shaded	Shaded
Support programs that reduce the cost-burden for renters and home-owners		Shaded		
Increase incentives for supermarkets to locate near LPAMs	Shaded		Shaded	Shaded
Expand support systems	Shaded	Shaded	Shaded	Shaded

Table 5 - Policy Suggestions

VI. CONCLUSION

This report explores the benefits of manufacturing facilities that go beyond job growth. Across all three communities (high poverty, majority black, and majority white), we see increasing outcomes in economic stability, education access, health care access, neighborhood and built environment, and social and community context. Our results demonstrate that large-producing-advanced manufacturers are a boon for communities, especially those with a majority black or high-poverty population.

Going forward, manufacturers, economic developers, and siting professionals must work together to situate new facilities in localities that will realize the most significant benefits. Combining these targeted siting decisions with specific policy measures will strengthen the Georgia economy and build vibrant communities.

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APPENDIX

This report categorized manufacturers as large, producing, and advanced. First, we define large manufacturers as those that employ 500 or more on-site. To determine if a facility produces on-site, we matched facilities to EPA permits, including Air, National Pollutant Discharge Elimination System (NPDES), and Resource Conservation and Recovery Act (RCRA). Finally, to determine advanced manufacturing status, we used a list of NAICS codes created by the Brookings Institute in their report defining advanced industries in America.

Finally, we analyzed the ZIP codes of the LPAMs based to understand if they were high poverty, majority black, or majority white. A definition of high poverty used the census definition of population that is 20% or more living below the poverty line. Majority black and white were ZIP codes with greater than 51% of a single racial category. This was based on the poverty rate from the ACS 5-yr 2007-2012. Our data came from three publicly-available sources – American Community Survey (ACS), County Business Patterns (CBP), and Longitudinal Employer-Household Dynamics (LEHD). (Table 6)

	Indicator	Source	Table/Identifier
	Total Population	ACS	DP05
	Businesses	CBP	All
	Small Businesses	CBP	n1_99
Economic Stability	Employment in Area	LEHD	Work Area Profile
	Employed Working-Age Resident	ACS	DP03
	Residents Employed within the Community They Reside	LEHD	Input/Output
	Residents Working in Non-Low Wage Jobs	LEHD	Home Aea Profile
Education Access	Child Day Care Facilities	CBP	NAICS 6244
	Educational Services	CBP	NAICS 61
Health Care Access	Residents with Insurance	ACS	DP03
	Offices of Physicians	CBP	NAICS 6211
	Nursing and Residential Care Facilities	CBP	NAICS 623
Neighborhood & Built Environment	Cost-Burdened Households	ACS	DP04
	Owner-Occupied Homes	ACS	DP04
	Commerical Banking Facilities	CBP	NAICS 5221
Social & Community Context	Supermarkets and Other Grocery	CBP	NAICS 44511
	Support Systems	CBP	NAICS 813
	Arts and Entertainment Facilities	CBP	NAICS 71
	Restaurants	CBP	NAICS 722

Table 6. Variables

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