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THE MEAL DEFICIT METRIC PROJECT

Measuring Missing Meals at a Granular Level Across Wilcox County, Alabama

A Research Project For
Gray Television *InvestigateTV*

EXECUTIVE SUMMARY

June 2021

OVERVIEW

Examining Hunger in Wilcox County

Most Americans who know at least the basics of both history and geography are aware that Montgomery is not only the state capital of Alabama but also both the final destination of the historic "Selma-to-Montgomery Marches" and the site of Dr. King's famous "How Long, Not Long" speech. But probably few – even of those living across Alabama itself – are aware that just an hour's drive to the southwest of the capital is a small, rural county called Wilcox, where many residents go hungry because they cannot get the food they need. Hunger has been an urgent issue in Alabama and elsewhere for decades. *How long* will it take to finally *solve* generational hunger as well as the newer, mostly undocumented hunger among the many households that struggle to regularly eat nutritious meals? In theory, *not long*, provided local officials and organizations possess two things: reliable, pinpointed data and the willpower to fix a broken system. With these in hand, regular, nutritious meals could be provided in ways that generate the momentum to attract *new* resources and to *use* existing ones more strategically and efficiently.

Wilcox County, Alabama, has a population of approximately 11,000 residents. Countywide, there are just over 500 *populated individual* blocks. Imagine for small groups of those blocks calculating the meals households miss after accounting for all other ways those households currently acquire food. That is what this work accomplishes.

The Meal Deficit Metric

The Meal Deficit Metric is a unique model developed by Mari Gallagher Research & Consulting Group (MG). It was first commissioned by Feeding Florida at the request of its extremely capable Executive

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MAP APPENDIX

The Appendix includes high-resolution maps

See viewing instructions at the end of this report

MORE INFORMATION AVAILABLE ONLINE AT:

MariGallagher.com

ACKNOWLEDGEMENTS

This special analysis was conducted at the request of *InvestigateTV*, which has been reporting on health disparities throughout the Mississippi Delta & Appalachia.

Their commitment to high-quality, in-depth journalism and coverage of pressing issues contributed greatly to our work.

MORE INFORMATION AVAILABLE ONLINE AT:

InvestigateTV.com

Director, Robin Safley, who continues to be passionate in her resolve to solve hunger in her home state. Learn more at FeedingFlorida.org.

The Meal Deficit Metric calculates the unmet food gap at a very low geography after "netting out" (1) all government food subsidies such as the Supplemental Nutrition Assistance Program (SNAP) and free-or-reduced-price school meals, (2) charitable food provided through pantries and other organizations, and (3) all other ways that households might acquire food, including support from friends and relatives. The Meal Deficit Metric predicts meals that are missed because households cannot afford them despite the community resources available to them. This is distinct from dieting and fasting for reasons not related to food affordability.

A New Approach

Hunger is not just an Alabama problem

Why is this work unique? First, our model uses only local data and generates statistically significant results for very small geographic units. Up until now, food banks and the anti-hunger lobby have only had access to limited data with results at the state or county level. In some cases, that data has been "projected down" to smaller areas, but not reliably. Looking down from such a high altitude, how is it possible to accurately identify the locations and totals of missed meals across a county? Because our model (1) considers all households, not just poor households or those households that self-identify as "food insecure," and (2) calculates missing meals at these very small geographic units, true hunger is revealed in a new way that makes meaningful and trackable food relief possible.

The picture we present today of missing meals is not just an Alabama problem. Anti-hunger leaders and public officials *everywhere* are well aware of those "obvious sections" of their counties with high concentrations of very poor households. But having a sense of (1) where many poor people live, and (2) their general population count, is not synonymous with (3) quantifying the number of net missing meals or (4) pinpointing the locations where meals are missed. Nor does it account for (5) those "not so obvious" households and locations where meals might regularly or periodically be missed because households cannot afford them.

We avoid the labels *food insecure* and *food insecurity*

Instead we use *net missing meals* and *net meal deficit*

New Terminology

Food insecurity is a term that creates confusion

Science and even our own lifeforce as human beings on earth is not static; it keeps moving and evolving. And all movements require a periodic refreshing of methods and action. They beg for a deeper understanding, for a closer look. And they require terminology and communication that is more accurate, enlightened, relatable, and direct. It is time for a refreshed defining of both problems and solutions concerning hunger. Persistent hunger in the land of plenty is a solvable dilemma. In many respects, "fighting" hunger has become big business, and the idea of winning and moving past the war might not be welcomed by everybody. Scientifically measuring the willpower of society to greatly reduce if not eliminate hunger is not a metric we can develop at our firm. Our aim here is to introduce suggestions for new ways of thinking about hunger, new ways of measuring and understanding hunger, new openings for thoughtful discussions about hunger (in policy circles and around our own kitchen tables), and new and better ways to take meaningful action that is trackable, honest, and transparent. The first step is to get our measures and our language straight.

"Fighting" hunger has become *BIG BUSINESS,* and the idea of winning and moving beyond the war might not be welcomed by everybody

Many food relief advocates across America use the term "food insecure" to (1) describe all SNAP-qualifying households (which is an income bracket adjusted for household size) as (2) the population that experiences hunger. In our view, this is problematic for many reasons.

In our work, we avoid the labels "food insecure" and "food insecurity" and instead use "net missing meals" and "net meal deficit" as more accurate and specific descriptions.

Where did the term "food insecurity" originate?

In 1939, as America was recovering from the Great Depression, the federal government created its first version of today's food relief program. In the 1960s, these efforts were refined and tested with pilot programs. This ultimately resulted in the Food Stamp Act of 1964 (SNAP's predecessor).

For the first time, there was wide public awareness of hunger and poverty. In response, federal program officials developed a formula that used household income (adjusted by the number of members in the household) as a way to quantify and target the national "food insecure" population. Income was the early proxy for "food insecurity" and for hunger. But

"food insecurity" programs were designed to *reduce* "food insecurity" and as such *reduce* hunger. Therefore, the terms should not be used interchangeably unless (1) all efforts that contribute to reducing hunger are netted out and (2) all households of all income levels are considered.

In the 1990s, the United States Department of Agriculture (USDA), in partnership with others, began a yearly hunger survey. This results in yearly "food insecurity" reports based on survey data. When USDA researchers use the term "food insecurity" in their survey analysis, they are indeed "netting out" all other ways that households might acquire food and they consider all households. This survey is of tremendous value. It is a dependable, reliable, year-to-year assessment of hunger across America. As such, it is a major resource in all anti-hunger toolboxes. However, in many other cases in the larger anti-hunger field, the term "food insecurity" is used incorrectly and is misunderstood.

For Wilcox County we use Alabama results from the hunger survey (as opposed to national results used in other hunger studies) as one of many components in our Meal Deficit Metric Model. And we used local Wilcox County block group data. Block groups are simply small clusters of individual blocks.

Block groups are small clusters of individual blocks

Announcing that a community has a certain number of "food insecure families" does not reveal…

HOW MANY MEALS ARE MISSING?

Imagine assigning all households residing anywhere in the United States to one of these three categories: (1) those that qualify for and receive government food subsidies such as SNAP; (2) those that qualify for but *do not* receive government food subsidies, for whatever reason; and (3) those that do not qualify for government food subsidies and therefore do not receive them. Each of these three household categories across a large geography will have some combination of (1) households that regularly miss meals, (2) households that periodically or occasionally miss meals, and (3) households that have all their meal needs completely met. The number of households that qualify for food subsidies is often incorrectly conflated with the number of households that go hungry. This is confusing, and also incorrect.

A second problem is that announcing that a community has a certain number of these "food insecure families" does not reveal how many meals they are missing. It weights all households equally as having the same meal deficit and adds the households up as one total. Additionally, the number of "food insecure families" is usually far off the mark.

Why is equal weighting problematic? Households do not all have the exact same meal shortage. Households miss meals for different reasons and at different times. Some miss them regularly each week or at the end of the month, when resources run short. Others miss them periodically at different times of the year due to unforeseen hardships (such as an illness, job loss, or divorce). Some households miss some or more meals than usual depending on the season (when household employment is seasonal, for example). And

households can miss meals because of an unforeseen circumstance that creates financial hardship. And all of those households will have varying durations of hunger. In the case of an unexpected hardship, for example, the duration of missing meals could be long, short, or moderate.

The Meal Deficit Metric takes the stereotypes and the guesswork out of directing food relief to households in need

The Meal Deficit Metric takes the stereotypes and the guesswork out of directing food relief to households in need. In many communities across America, wages have not kept up with the rising cost of housing, daycare, health insurance, and other necessities. Some households might earn a good wage but still have very tight budgets and maxed-out credit. As indicated in the preceding paragraph, when the unexpected happens, it is not just the "obvious poor" who have to choose between paying bills or buying enough food. This is why it is important to consider all households in all income brackets and then "net out" all resources used to put food on the table, including but not limited to government food programs, using *localized* data. And this is also why we have developed a few new terms to communicate what exactly should and is being measured.

It is important to consider all households in all income brackets and to "net out" all resources, including but not limited to government food programs, using localized data, and to have new and clear terms to communicate what exactly is being measured and why

KEY FINDINGS

Overview

The Meal Deficit Metric calculates missing meals for households, not for group quarters, which include nursing homes and prisons where regular meals are already provided

In this section, we provide the findings of net missing meals across Wilcox County. The full set of high-resolution maps detailing block group scores are located in the Appendix. To zoom-in and enlarge features of high-resolution maps, view maps on a desktop computer with current PDF-type software and increase the "percentage shown" number. Depending on the quality of your viewing software and the speed of your internet connection, high-resolution maps might take a few minutes to load. Should the screen freeze, exit-out and re-open the map.

Wilcox County Introduced

Wilcox is a relatively small, rural county in Alabama comprised of approximately 3,900 households and an overall population of 11,000. As we detail in the Methodology section, by design, our model calculates missing meals for *households*, not for *group quarters*. Group quarters include institutional establishments such as nursing homes and prisons, where regular meals are already provided. The population only for those residents living in households is 10,430, only slightly lower than the overall total population of 10,681. Of overall household population, 25% are under 18 years of age, 56% are between 18 and 64, and 19% are 65 or older.

How do household members earn a living in Wilcox County? We present two tables which use distinct industry categories for the civilian employed population over 16 years of age. Type of work varies greatly in Wilcox County. Three sectors that stand out are 1) health care and social assistance, 2) manufacturing, and 3) transportation and material moving. 60% of all workers 16 years of age or older are employed in Wilcox County, and of all civilian workers, 53% are female and 47% are male. Of all civilian workers, 89% do not work from home and do drive alone to work, and for about 44% of all workers, the drive time is less than 20 minutes.

Table #1: Civilian Employed Population 16 Years of Age or Older by Industry Category 1

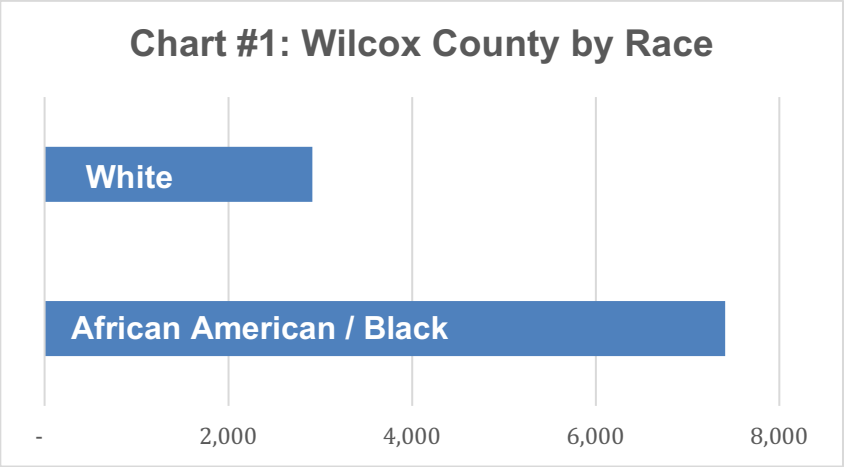
TOTAL CIVILIAN EMPLOYED OVER 16 YEARS OF AGE	2,995	100%
Agriculture, forestry, fishing and hunting	158	5.3%
Mining, quarrying, and oil and gas extraction	45	1.5%
Construction	244	8.1%
Manufacturing	443	14.8%
Wholesale trade	5	0.2%
Retail trade	290	9.7%
Transportation and warehousing	223	7.4%
Utilities	45	1.5%
Information	11	0.4%
Finance and insurance	58	1.9%
Real estate and rental and leasing	12	0.4%
Professional, scientific, and technical services	50	1.7%
Management of companies and enterprises	0	0.0%
Administrative and support and waste management services	125	4.2%
Educational services	224	7.5%
Health care and social assistance	441	14.7%
Arts, entertainment, and recreation	2	0.1%
Accommodation and food services	214	7.1%
Other services, except public administration	177	5.9%
Public administration	228	7.6%

Data source: 2015 to 2019 American Community Survey Estimate.
Note: More current estimates are available. We use this estimate as it matches the data years of a key input into our Meal Deficit Metric Model and can also be culled for the Model's output scores by individual block groups.

Table #2: Civilian Employed Population 16 Years of Age or Older by Industry Category 2		
TOTAL CIVILIAN EMPLOYED OVER 16 YEARS OF AGE	2,995	100%
Management	198	6.6%
Business and financial operations	33	1.1%
Computer and mathematical	28	0.9%
Architecture and engineering	7	0.2%
Life, physical, and social science	23	0.8%
Community and social services	79	2.6%
Legal	30	1.0%
Education, training, and library	157	5.2%
Arts, design, entertainment, sports, and media	0	0.0%
Healthcare practitioner, technologists, and technicians	120	4.0%
Healthcare support	176	5.9%
Protective service	80	2.7%
Food preparation and serving related	154	5.1%
Building and grounds cleaning and maintenance	61	2.0%
Personal care and service	132	4.4%
Sales and related	219	7.3%
Office and administrative support	387	12.9%
Farming, fishing, and forestry	55	1.8%
Construction and extraction	170	5.7%
Installation, maintenance, and repair	70	2.3%
Production	342	11.4%
Transportation and material moving	474	15.8%

Data source: 2015 to 2019 American Community Survey Estimate.
Note: More current estimates are available. We use this estimate as it matches the data years of a key input into our Meal Deficit Metric Model and can also be culled for the Model's output scores by individual block groups.

The majority of the population of Wilcox County is African American (about 7,400 people) and most of the rest are White (just under 3,000 people). Later in the Findings section, we provide tables with information about Wilcox County by block group. To know where those locations are, please consult the key code map in the Appendix, which also includes maps on race.



About 72% of all households earn less than $50,000 per year. However, more needs to be done to understand disposable income patterns. This can be addressed through a closer analysis of household income by family size and age of householder. The local cost of living is also a factor and varies across the U.S. However, based on these data alone in the table below which detail income by specific brackets, it is reasonable to conclude that household income is generally low in Wilcox County. At the same time, it is important to note that income and other demographic patterns alone do not determine accurately which households miss meals because they cannot afford them.

Table #3: Wilcox County Households by Disposable Income

Category	Total	Percent
Total households	3,854	100%
Less than $10,000	602	15.5%
$10,000 to $14,999	413	10.7%
$15,000 to $19,999	376	9.8%
$20,000 to $24,999	293	7.6%
$25,000 to $29,999	200	5.2%
$30,000 to $34,999	193	5.0%
$35,000 to $39,999	245	6.4%
$40,000 to $44,999	225	5.8%
$45,000 to $49,999	235	6.1%
$50,000 to $59,999	234	6.1%
$60,000 to $74,999	282	7.3%
$75,000 to $99,999	239	6.2%
$100,000 to $124,999	155	4.0%
$125,000 to $149,999	56	1.5%
$150,000 to $199,999	45	1.2%
$200,000 or more	61	1.6%

Average household income = $42,500

Median household income = $31,014

Wilcox County Block Group Scores

The previous chart and tables were aggregations across the *entirety* of Wilcox County. Now we examine more *granular data*. Wilcox County contains 12 block groups, and for each one, we have reliable scores for total meals that households collectively miss because they cannot afford them, after we "net out" all other ways that households acquire food, including SNAP, WIC, free-and-reduced-price meals in schools and through other organizations, pantries and food banks, and even help from friends and family.

What are block groups? As discussed, they are clusters of individual blocks. In the Map Appendix, we have a block group key code map. There is no data on the map, only our internal IDs (1 through 12, as there are 12 block groups in Wilcox County). The official Census IDs for block groups are very lengthy, and it is our practice to re-code them as smaller digit numbers that are easier to understand, locate, and use at the local level.

Before presenting missing meal scores across each block group, we detail other conditions, but, this time, by each block group, rather than by a county total. A county is a much larger geographic unit than a bock group. By "drilling down" block-group-by-block-group, and by comparaing block groups, we can better understand the conditions of where people *actually live*. When we examine patterns across Wilcox County's 12 block groups, we see that poverty is an issue.

As we show in the next table, the average for households in poverty or on SNAP is, by design, the weighted average across each of the 12 block groups (meaning all block groups are weighted the same regardless of total population residing in households). This is called the **simple average**, and it is distinct from weighting block groups by household population which would result in varying weights block-group-by-block-group. We use the simple average method to show how block groups compare and what the average conditions are across all block groups.

In our work we find that many households that qualify for SNAP do not apply, and household members do not need to be below the poverty level to quality. And as we noted earlier, income and other demographic patterns alone do not determine accurately which households miss meals because they cannot afford them. Therefore, when reviewing the table, one should not assume that the missing meals in Wilcox County are among those in poverty or on SNAP.

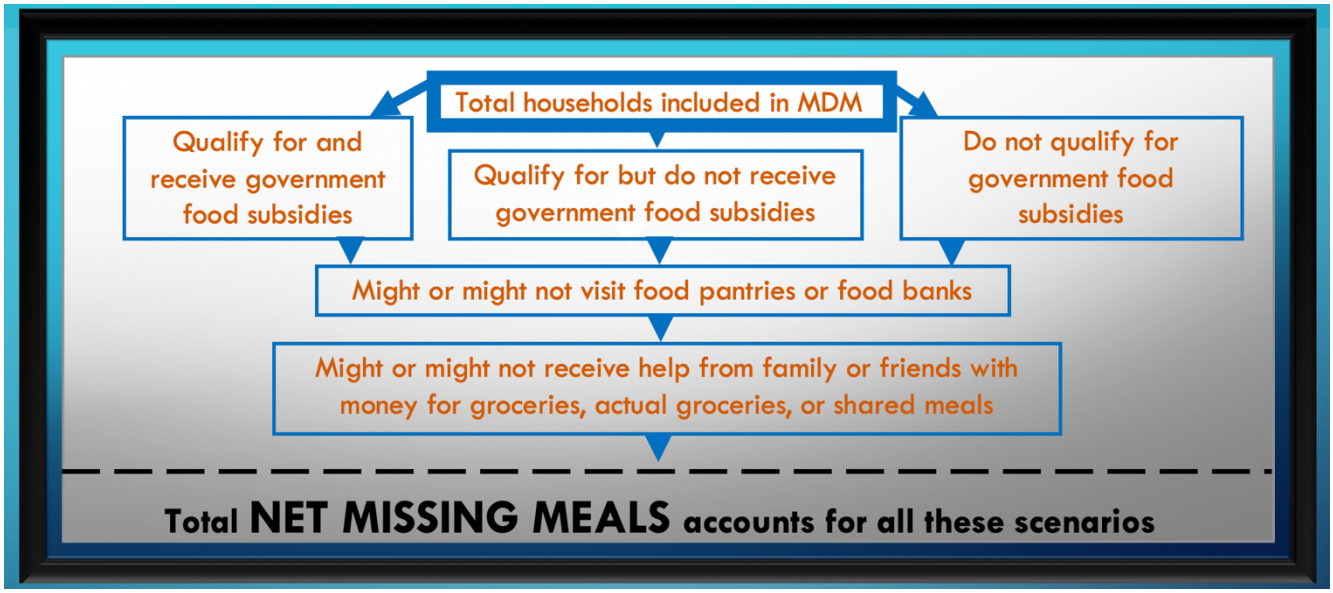


Table #4: Wilcox County Demographics						
MG Block Group ID	Total Population	Number of Households (HHs)	Pct of HHs in Poverty	Pct of HHs on SNAP	Black/African American Population	White Population
1	1,528	523	40.34%	31.55%	1,460	68
2	2,025	762	43.31%	33.33%	1,611	144
3	191	81	7.41%	0.00%	118	68
4	275	165	10.91%	13.33%	117	158
5	1,010	383	30.03%	22.98%	483	518
6	1,048	253	9.49%	21.74%	647	401
7	484	236	23.31%	23.31%	197	262
8	1,090	346	34.10%	29.48%	973	114
9	1,106	368	21.74%	26.63%	613	478
10	472	187	16.58%	13.37%	104	342
11	764	275	36.36%	26.18%	598	163
12	688	275	21.09%	15.64%	489	199
Total or *Average	****10,681**	****3,854**	*****24.56%**	*****21.46%**	**7,410**	**2,915**

NOTE:

*In this table, the average for households in poverty and on SNAP is, by design, the weighted average across each of the 12 block groups (meaning all block groups are weighted the same regardless of total population residing in households). This is called the **simple average**, and it is distinct from weighting block groups by household population which would result in varying weights block-group-by-block-group. We use the simple average method to show how block groups compare and what the average conditions are across all block groups.

**This is the population added up across block groups. There are also other periodic estimates available that are based on a countywide (not block group) projection, meaning it is projected for the county as a whole and not projected down across the block groups where residents actually live. Therefore, such totals will vary from ours, although not by much. The same is true for households in poverty. For households, as we are using block group data, the total will slightly differ from any more recent countywide projections, and those projections are only available for the county as a whole.

***The number of households that participate in the SNAP program can change month-to-month. The State of Alabama or another entity that regularly qualifies and monitors local SNAP entry and exit would likely have a slightly different total, as ours lags further in time.

Table #5: Wilcox County Demographics *continued with additional variables*					
MG Block Group ID	Total Population	Number of Households (HHs)	Population under 18	Population over 64	Percent of HHs without a Car
1	1,528	523	500	240	22.94%
2	2,025	762	566	342	19.55%
3	191	81	55	32	7.41%
4	275	165	-	58	13.33%
5	1,010	383	262	137	24.02%
6	1,048	253	325	210	14.62%
7	484	236	29	174	11.02%
8	1,090	346	285	105	16.76%
9	1,106	368	244	238	11.14%
10	472	187	72	108	0.00%
11	764	275	87	179	9.09%
12	688	275	152	203	8.73%
Total or *Average	**10,681**	**3,854**	**2,577**	**2,026**	***13.22%**

NOTE:

*In this table, the average for percent of households without a car, by design, the weighted average across each of the 12 block groups (meaning all block groups are weighted the same regardless of total population residing in households). This is called the **simple average**, and it is distinct from weighting block groups by household population which would result in varying weights block-group-by-block-group. We use the simple average method to show how block groups compare and what the average conditions are across all block groups. Total Population and Number of Households repeat across tables to help the viewer asses other variable scores more easily.

**Accounting for all food subsidies,
food bank support,
and help from friends and family,
Wilcox County residents
miss a total of
686,000 (rounded) meals per year
because they cannot afford them**

**If all residents of Wilcox shared the meal loss equally
at one time without interruption,
it would mean that
no one in the County would eat a single meal for
3 straight weeks**

Wilcox County Missing Meals

Scores are at the block group level, which are relatively small clusters of individual blocks. Why is this unit of measurement ideal? Because without high-quality, pinpointed hunger scores, solving hunger is not possible. The next table is designed to make this point. Let's examine all counties in Alabama in terms of their units of measurement. Many government and foundation entities rely on larger units such as ZIP Codes, which are too large and can cross county boundaries.

Table #6: Missing Meals Across Wilcox County & Geographic Comparisons Across Alabama Illustrating Why Block Groups are Ideal Units of Measurement

County Name & Units of Measurement* (Block Groups)		Current County Population	Total Number of HHs (Households)	Average Weekly HH Missing Meals	Total Weekly Missing Meals	Total Yearly Missing Meals
Wilcox	12	10,681	3,854	3.42	13,188	685,795

NOTES:

*** Units of Measurement** is the total number of small geographic areas for which the model generates reliable scores across the county. These geographic units are technically called "block groups" because they consist of a small cluster of individual blocks. The number of **yearly missing meals in *pounds of food*** in Wilcox County is **960,113**.

All Alabama Counties in Alphabetical Order

There are **3,438 total block groups across all of Alabama**. Imagine dividing the entire state into these hyper local areas and reliably predicting the number of meals missed after netting out EVERYTHING else. This is what this work can accomplish. There are 67 counties across Alabama. Some studies predict missing meals across the U.S. at the county level but do not consider all households or net out everything. Local data is not used. And many organizations use ZIP Codes for data averaging on a wide range of other social factors. ZIP Codes are too large and can distort the true patterns of social conditions. Even if they provided accurate information, *where* in the ZIP Code do specific conditions of interest exist? This is not revealed and becomes a guessing game. Furthermore, ZIP Codes cross county boundaries. If a county department of public health, for example, were addressing health disparities with ZIP Code data where the ZIP crosses the county boundary, it is possible that the issue resides in the neighboring county. Consider that there are 645 ZIP Codes across Alabama but only 376 reside fully within one county. Block group data, if reliable, solves these problems.

	Block Groups	Tracts	Total ZIP Codes	ZIP Codes Fully Inside County	ZIP Codes Partially Inside County
Autauga	32	12	10	2	8
Baldwin	94	32	24	21	3
Barbour	23	9	9	3	6
Bibb	15	4	11	3	8
Blount	35	9	17	5	12
Bullock	7	3	7	0	7

Table #7: Geographic Comparisons Across Alabama Illustrating Why Block Groups are Ideal Units of Measurement *continued*					
County Name	**Block Groups**	**Tracts**	**Total ZIP Codes**	**ZIP Codes Fully Inside County**	**ZIP Codes Partially Inside County**
Butler	19	9	8	1	7
Calhoun	91	31	14	9	5
Chambers	33	9	10	3	7
Cherokee	19	6	10	4	6
Chilton	30	9	14	4	10
Choctaw	15	4	11	9	2
Clarke	24	9	10	8	2
Clay	13	4	11	3	8
Cleburne	11	4	6	3	3
Coffee	33	14	16	3	13
Colbert	46	14	9	5	4
Conecuh	12	5	13	2	11
Coosa	11	3	11	2	9
Covington	38	14	12	4	8
Crenshaw	10	6	11	0	11
Cullman	62	18	19	6	13
Dale	43	14	14	3	11
Dallas	39	15	10	2	8
DeKalb	53	14	21	8	13
Elmore	46	15	13	6	7
Escambia	30	9	8	2	6
Etowah	83	30	13	5	8
Fayette	18	5	10	3	7
Franklin	26	9	9	2	7
Geneva	24	6	14	4	10
Greene	10	3	8	3	5
Hale	13	6	7	2	5
Henry	16	6	7	2	5
Houston	70	22	14	6	8
Jackson	44	11	21	12	9
Jefferson	518	163	60	44	16
Lamar	16	3	9	3	6
Lauderdale	73	22	9	5	4
Lawrence	31	9	10	4	6
Lee	77	27	15	3	12
Limestone	43	16	15	7	8
Lowndes	12	4	7	2	5
Macon	20	12	12	5	7
Madison	191	73	25	17	8
Marengo	24	6	15	7	8
Marion	28	8	12	2	10
Marshall	65	18	16	2	14
Mobile	269	115	39	2	37
Monroe	21	7	16	5	11

Table #8: Geographic Comparisons Across Alabama
Illustrating Why Block Groups are Ideal Units of Measurement *continued*

County Name	Block Groups	Tracts	Total ZIP Codes	ZIP Codes Fully Inside County	ZIP Codes Partially Inside County
Montgomery	199	65	22	15	7
Morgan	75	27	14	4	10
Perry	12	3	8	1	7
Pickens	19	5	8	3	5
Pike	23	8	9	1	8
Randolph	18	6	8	3	5
Russell	36	13	13	6	7
St. Clair	39	13	17	10	7
Shelby	112	48	22	12	10
Sumter	14	4	9	6	3
Talladega	54	22	10	3	7
Tallapoosa	36	10	12	2	10
Tuscaloosa	115	47	26	13	13
Walker	58	18	18	7	11
Washington	17	5	15	12	3
Wilcox (study area)	**12**	**4**	**15**	**6**	**9**
Winston	23	7	12	4	8
Totals	**3,438**	**1,181**	**NA***	****376**	****554**

***NOTE:** the column is not summed as ZIP Codes cross county boundaries, and many would be counted more than once.

Consider our study area: Wilcox County. ZIP Codes are not ideal units of analysis as – in the case of Wilcox – 9 are only *partially* in the county, meaning other areas of the ZIP Code are in an *adjacent* county.

Entirely in Wilcox	Partially in Wilcox
36766	36769
36720	36728
36726	36761
36435	36768
36723	36784
36722	36783
	36751
	36481
	36753

****NOTE:** Total singular ZIP Codes across Alabama should not be summed by adding these two columns as many partially in the county would be incorrectly counted more than once.

The singular count of all ZIP Codes either fully or partially in each county across Alabama = 645

In Wilcox County, many ZIP Codes cross a county boundary. Many organizations everywhere across the US use ZIP Code data where variables are averaged or aggregated on a wide range of social factors. But ZIP Codes are too large and can distort findings. Even if they provided accurate information, where in the ZIP Code do specific conditions of interest exist? Imagine if the inquiry is on the part of a county agency. Are they attempting to address conditions that are perhaps occurring in a *neighboring* county?

Table #9: Missing Meals Across Wilcox County by Individual Block Groups						
U.S. Census Block Group ID + Total Population in blue in that block group (below Census ID)	MG Block Group ID	Total Number of HHs (Households)	Average Weekly HH Missing Meals	Total Weekly Missing Meals	Total Yearly Missing Meals	Total Yearly Missing Meals in Pounds of Food
G01013100347001 1,528	1	523	4.41	2,306	119,919	167,887
G01013100348001 2,025	2	762	3.81	2,899	150,774	211,083
G01013100348002 191	3	81	2.16	175	9,087	12,722
G01013100348003 275	4	165	2.30	380	19,765	27,671
G01013100348004 1,010	5	383	2.89	1,108	57,615	80,661
G01013100348005 1,048	6	253	3.52	891	46,354	64,895
G01013100351001 484	7	236	2.84	671	34,900	48,860
G01013100351002 1,090	8	346	3.92	1,356	70,527	98,738
G01013100351003 1,106	9	368	3.52	1,294	67,298	94,218
G01013100351004 472	10	187	2.39	447	23,240	32,537
G01013100352001 764	11	275	3.57	983	51,121	71,569
G01013100352002 688	12	275	2.46	677	35,194	49,272
Total or Average*		3,854	3.42	13,188	685,795	960,113
Note: As in other tables, we are using the simple average across block groups.						

Conclusion

Accounting for all food subsidies, food bank support, and help from friends and family, Wilcox County residents miss a total of 686,000 (rounded) meals per year because they cannot afford them. This is a serious quality of life and quality of health problem. If the state of Alabama set the goal of everyone obtaining 3 meals per day, and if all residents of Wilcox shared the meal loss equally at one time without interruption, it would mean that no one in the County would eat a single meal for 3 straight weeks. Hunger is solvable, and we are hopeful that local, statewide, and national leaders will use the data and tools in this report to take meaningful and focused action.

METHODOLOGY

A Unique Model

Mari Gallagher Research & Consulting Group (MG) developed a unique statistical model that utilizes a USDA hunger survey administered in Alabama and across the United States. In the USDA hunger survey, respondents are asked a number of questions concerning food purchases, food subsidies, and missing meals. Our model uses only (1) Alabama-specific household level data from the USDA hunger survey, (2) *additional* Alabama-specific household level data collected from other Census-administered surveys and appended to hunger survey household records, and (3) local demographic data from the American Community Survey at the block group level using only Wilcox County block group data. Block groups are simply small clusters of individual blocks.

We call the model the Meal Deficit Metric and its output is a Meal Deficit Score. Scores are in both missing meals and – for charitable feeding purposes – missing meals are also converted to pounds of food.

The Meal Deficit Metric calculates the unmet food gap at a very low geography after "netting out" (1) government food subsidies such as SNAP and free-or-reduced-price school meals, (2) charitable food provided through pantries and other organizations, and (3) all other ways that households might acquire food, including support from friends and relatives. The Meal Deficit Metric predicts meals that are missed because households cannot afford them. This is distinct from dieting and fasting for reasons not related to food affordability.

Reliability

The findings from our model are statistically significant, meaning that they are reliable and are unlikely to have resulted from chance patterns in the data.

Unit of Measurement: The Block Group

Our unit of measurement is the Census-defined block group.

In our work, we found that the "block group" as a geographic unit or even as a general concept is fairly unknown. This is not surprising and is most likely because funders and organizations in the nonprofit arena across the U.S. typically rely on tabulations by county, by ZIP Code, or by Census tract. Block group data are rarely used. We provide a brief explanation that we hope is useful as an introduction to block groups and why they are an ideal geographic unit for measuring and understanding "hunger totals" and other community conditions.

Over the course of history, county boundaries have changed from time to time, although today they rarely do. Determining county boundaries is strictly a state matter. The U.S. Census Bureau has created a hierarchy of geographic units below the county unit and re-examines (and, in some cases, re-configures) their boundaries every 10 years. Below the county, the next largest unit is the ZIP Code.

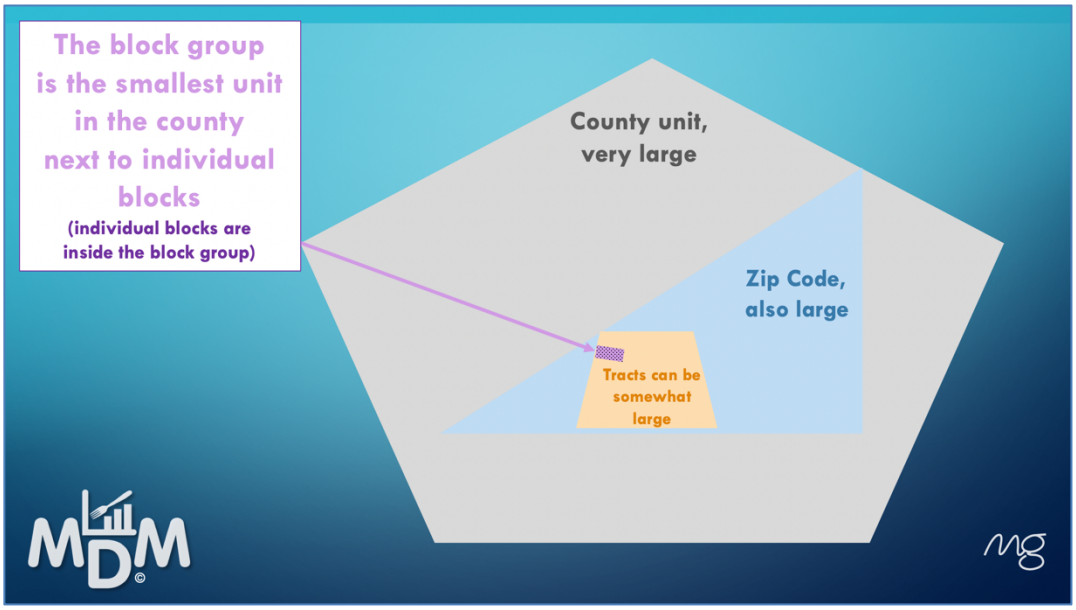
There are two types of ZIP Code areas. To keep it simple, one can be considered a "postal" ZIP Code, originally created by the U.S. Postal System. The other can be considered a "Census" ZIP Code, adopted and amended by the Census Bureau. The "postal" ZIP Code and the "Census" ZIP Code are geographically similar but usually not identical. We have seen instances where tabulated "Census" ZIP Code data is detailed in a table but then, as a location reference, the ZIP Code boundary is mapped using the "postal" boundary. There also can be confusion when ZIP Codes cross county boundaries. For example, if you are a county official, and you are relying on ZIP Code data either averaged or totaled across the ZIP Code, it would be helpful to know which ZIP Codes cross county boundaries.

Below the ZIP Code are Census-defined tracts. Tracts are made up of a cluster of block groups. They can be large and elongated and stretch out in one direction for many miles.

Below tracts are Census-defined block groups. Blocks groups are a much smaller unit made up of a cluster of individual blocks. The block group has very robust data that is collected each year and rolled into moving five-year estimates as part of the American Community Survey. Results are very detailed and reliable. This is also true of tracts, but because block groups are much smaller, in our view, block group data are more insightful and actionable.

Blocks are the smallest Census unit, although any point on a block also can be pinpointed and mapped, and many rural blocks also can stretch out for comparatively long distances compared to urban blocks. Blocks have very limited data: every 10 years, the Census updates its counts of total block population by race and by adults and children.

Here is an illustration underscoring the small size of block groups compared to other units of measurement:



Wilcox County has 12 block groups. This compares to 4 tracts and 15 ZIP Codes. That our model results in reliable scores at the block group level is ideal: to fight hunger effectively, it is critical to pinpoint exact locations where meals are missing.

Data Details

Our projections are based on Wilcox County block group characteristics (the latest American Community Survey – ACS) and the relationship between household characteristics and the number of additional meals each household requires to meet its basic food needs (estimated from the latest "Food Security" Supplement to the Current Population Survey – CPS). The CPS is a nationally representative monthly survey administered by the U.S. Census Bureau. We utilized deidentified individual Alabama household data from households that participated over a five-year grouping (without duplicates), distinct from other hunger studies that utilize national data regardless of the state being studied, and these data were extracted from the IPUMS-CPS website. Each December, the survey contains a set of questions, devised in cooperation with the U.S. Department of Agriculture (USDA), to assess unmet food needs in households. The survey asks useful questions, including: (1) "what is the usual weekly amount the household spends on food?" and (2) "how much additional money is needed in order for the household to meet weekly basic household needs for food?" The two questions were combined to determine how many additional meals the household needed to "meet weekly basic household needs for food." This was done by adding (1) and (2) together (to get the weekly food spending that would meet basic needs), using the household composition to determine the cost of each of the household's 21 meals per person per week (assuming that each adult meal was 1.5 times the cost of each child meal), and dividing (2) by the estimated per meal cost to determine how many meals (rather than how many dollars) were represented by the family's unmet food needs. The analysis was done through a multiple regression, which is an extension of simple linear regression. The variable we predict is called the dependent variable (or sometimes, the outcome, target or criterion variable), and the variables we are using to predict the value of the dependent variable are called the independent variables (or sometimes, the predictor, explanatory or regressor variables). The dependent variable in our model is “meals missed because people cannot afford them.” We provide additional details on our Meal Deficit Metric methodology on our website: MariGallagher.com.

ABOUT MG & *INVESTIGATETV*

Research Team

Mari Gallagher Research & Consulting Group is a national firm specializing in localized data, strategic information, and measurable solutions. The firm has maintained a national reputation for diverse, high impact projects across the United States since its founding in 2005. Clients and partners include grassroots community and civic organizations, government entities, foundations, small and large for-profit and non-profit ventures, healthcare systems, and major international corporations. We have collaborated with the

Institute of Medicine (known as the National Academy of Medicine since 2015), the Urban Institute, Harvard, MIT, the National YMCA, and many other organizations.

Our firm has extensive expertise quantitative and qualitative research projects; food access and public health; food systems studies and market and grocer assessments; anti-hunger assessments and strategies; retail and housing market assessments; transit and other focused real estate developments; CDFI and other financial services, community and small business development; investment strategies; the economy; immigration; program evaluation; and other content areas.

We do not have a communications "handler" on staff, and we have never retained a public relations firm to advance or manage our firm's public persona. However, our work, based on its own merit, has been widely covered in publications such as The Economist, The Wall Street Journal, the New York Times, USA Today, and on national news networks such as CNN. You can also access a TEDx talk we gave by googling "Mari Gallagher TEDx."

Examples of MG work products:

- Grocery market analysis
- Other types of market analysis and support of business district development
- Product and new venture assessment
- Statistical modeling
- Impact studies
- Food system assessments
- Food deserts and health outcomes assessments
- Anti-hunger assessments
- Health and wellness measures
- Hospital and healthcare assessments
- Economic development impact measures
- Demographic analyses and trends
- Community profiles
- Neighborhood report cards
- Program development and evaluation
- Indexes
- Below-the-radar data development
- Indicator identification, development, tracking, and analysis
- GIS, spatial analysis, and mapping

Additional MG qualitative products:

- Program evaluation and program design
- Mystery shopping
- Public and expert testimony
- Surveys
- Key informant interviews
- Face-to-face interviews
- Intercepts
- Traditional focus groups

- Immediate-turn-around focus groups
- Needs assessments
- Communications and forums
- Illustrative and on-point reports, report cards, and summaries
- Dynamic PowerPoint presentations, including video and music inserts
- Public forums
- Town hall meetings and charrettes
- Strategic planning
- Community juries
- Facilitated discussions
- Internal meeting facilitation
- Strategic planning
- Keynote speaking engagements
- Executive briefings

Philosophy & Incorporation:

Our philosophy is that quality data and information, expertise, and integrity result in a successful project. We don't believe in research assembly lines or shunting off key assignments to junior staff or vendors. We are a full-service firm that custom-designs and executes each project to meet the unique needs and strategic questions of our clients. Strategy, precision, results – these are always our focus. We are a neutral third-party firm, and wholly owned female business enterprise, that does not engage in political campaigns or lobbying. With our passion, strategic insights, perseverance, commitment, and practical know-how, we help our clients change their worlds for the better.

Visit MariGallagher.com for more information!

About *InvestigateTV*

InvestigateTV is Gray Television's national investigative team, which reports on issues of concern, corruption, greed, mismanagement and fraud for digital, streaming and broadcast audiences across the United States.

Gray Television is a television broadcast company headquartered in Atlanta, Georgia. Gray currently owns and/or operates television stations and leading digital properties in 94 television markets that collectively reach approximately 24% of U.S. television households.

Visit *InvestigateTV*.com for more information!

Map Appendix

Notes:

- All maps are HIGH RESOLUTION in a separate PDF file on our website.
- All maps are designed to be viewed on a computer using a program that can read PDF files; they are not designed to be printed onto a standard page size or through a typical printer.
- We suggest that the map file size not be reduced; that would compromise quality.
- Because the maps are at a very high resolution, the viewer can increase the "percentage shown" number (usually located at the top of the PDF) to enlarge features. This enables to viewer to zoom in. The viewer can create a custom zoom-in map by doing this and then taking a screen shot.
- VIEWING DIFFICULITIES: Maps are large in file size, and each viewer's display quality depends on the PDF software used for viewing. Older PDF software might take longer to load. Should a page appear incomplete or show a line running through it, simply use your mouse to click on that page and it should reformat. Or exit out of the map and re-open it again. Again, these maps are designed to be viewed on a computer. Viewing by phone or another small device will likely result in difficulties.