# Pennsylvania Farmworker Project

Exposing Isolation of Immigrant Farmworkers in Pennsylvania

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### **Spatial Analysis Project:**

The estimated 50,000 farmworkers living throughout Pennsylvania's rural regions are the bedrock of our state's \$7.8 billion agricultural industry, yet they are uniquely targeted by exploitative structures due to socioeconomic, linguistic, and geographic isolation. This report aims to create a visualization of the geographic spread and intensity of immigrant farmworkers' isolation from vital resources like affordable food, healthcare, domestic violence shelters, legal services, language access, and public transportation to access those resources. This visualization is similar to maps that show food deserts, but it takes into account multiple types of resources as signifiers of isolation and spans the state of Pennsylvania. This data visualization project exposes the scale and scope of isolation experienced by those who feed us everyday.

This report was compiled using datasets from the Pennsylvania Department of Agriculture's Seasonal Farm Labor Camp registry and the U.S. Department of Labor's database of H-2A visa applications to map the locations of farmworker housing ("camps") across the state. Once these locations were mapped, further datasets, such as SNAP store locations and Federally Qualified Health Centers locations, were incorporated to determine isolation of farmworkers from service providers that could uniquely benefit them. Then drive times and walk times were approximated for each service provider, and the amount of SNAP funding per county in 2019 was analyzed.

These values are visualized as an approximate reference for resource allocation in Pennsylvania. They can be used to identify potential barriers when developing plans for aiding farmworkers in the state.

# **Camp Locations**



The map above shows 363 camp locations that house 4,300 workers in total. "Camps" include anything from housing at the worksite to rented motel rooms. These camps are broken down into three categories:

H-2A Worker Housing Seasonal Worker Housing Year-round Housing Single Family Housing Unit

The top five counties account for 67% of all workers in the state. Adams and Chester County account for the largest share with 1,481 and 932 workers respectively.

#### **Figure 1: Workers Per County**



### **FQHC Locations**



Federally Qualified Health Centers (FQHC) are community-based health care providers that receive funds from the HRSA Health Center Program to provide primary care services in underserved areas. They must meet a stringent set of requirements, including providing care on a sliding fee scale based on ability to pay and operating under a governing board that includes patients.

The classifications of parent and child locations refer to the services provided. While a parent location is the head location of any network, it may or may not provide health services. Child locations, however, do provide services in all cases.

### Figure 2: Health Care Providers per County



### **SNAP Store Locations**



Figure 3: SNAP Locations per County



SNAP store locations are included as service providers since these locations serve as potential sources of affordable food options.

## **SNAP Funding per County**



The state of Pennsylvania received over 2.5 billion dollars in SNAP funding in 2019. However, 28.63% of that funding goes to Philadelphia alone, where there are no registered worker camps.

#### Figure 4: SNAP Funding per County (2019)



### **Urban Classifications**



Of the 363 camps in PA, 216 are located in "rural areas", as defined by the Pennsylvania Department of Transportation's 2020 urban area boundaries. These 216 camps represent approximately 2,901 workers. All but 13 of the remaining camps are located in "large urbanized areas" (areas with a population of 200,000 or more). Those camps represent about 1,149 workers.

For a full breakdown of workers per urban location, see Figures 5 and 6.

#### Figure 5: Workers by Urban Type



#### Figure 6: Workers by Urban Name



### **Transit Accessibility**



Above shows census block groups with their access to transit as described by the EPA. The darker the color, the better access to transit those residents have

Only 10 camps fall within one of the census blocks shown above. These 10 camps, at best, reside within a tract that the EPA considers accessible by 5-10% or less of the population. Most camps reside in a "less than 2.5%" accessible block group. More information can be found at the EPA's website: <u>https://www.epa.gov/smartgrowth/smartlocation-mapping#Trans45</u>

### **Drive Times**



The map above was created using the road files provided by the **2020 - Pennsylvania Department of Transportation:** Pennsylvania State and Local roads. Through additional analysis, an approximation of drive times starting from each camp location was made, giving a result of how far one could drive from any given camp.

Caution is advised as this map is to be used in conjunction with other units of analysis. Clusters of service providers and camps may give an impression that service providers are more accessible than they actually are. For example, if only one camp is within range of tens or hundreds of service providers; that will skew the results and make those providers appear more accessible than they truly are since they are only serving one location.



Because this graphic gives the impression that most service providers are located within a 30-minute drive of worker camps, additional maps should be used to confirm how many camps are actually that close to providers.

### Walk Times



The Walk Times map was created using the same method as the drive times. This data reflects approximate walk times along roads and may not account for pedestrian paths.

9,173 of the 10,141 service providers (90.5%) are more than a 55-60 minute walk away from any given camp location.

Note: Camp 22 alone has access to 196 services within 5 miles and may account for a disproportionate number of the lower walk times shown in Figure 8. Figure 8: Service Provider Walk Times



### **All Service Providers**



#### **Service Provider Drive Times**



Service Provider Walk Times



### **Findings**

While Adams and Chester counties have the largest number of camps and workers, they only host 0.36% of the total SNAP locations and 1.32% of the total SNAP funding in state. In Adams County most camps are within a mile of each other, but few service providers are nearby, and the nearest health centers are a 20- to 40-minute drive away.

Transportation is potentially one of the largest hurdles to accessibility for farmworkers. Only 10 camps have even minimal transit accessibility. As Figure 8 shows, walking accessibility is equally poor, with over 90% of service providers located at least an hour from the nearest camp. This means that driving, the most expensive option, is the only option for most camps in Pennsylvania.

Chester County has some similar issues to Adams County, but most of the county is considered a "large urbanized area" and appears to have better access to resources. Service providers in the county tend to cluster in one of the three urban designations.

### **Isolation Index**

The Isolation Index shows how isolated a given camp is from resources and service providers within the state. Each camp was assigned a "Camp FID" number. All 363 camps are represented on the x-axis of each graph. The Isolation Score estimates how many service providers are accessible to a given camp. The lower the score, the more isolated the camp is.

### Methodology

To identify isolation, base values were assigned by the number of service providers within 5 miles because not every worker may have a car and public transit is practically non-existent.

Next, all service providers within 10 miles were added, but were given less weight because providers that are farther away are more difficult to access.

The final modifier was proximity of worker camps to other worker camps. Close proximity to other camps raised the base score, but lack of close neighbors did not lower the score in recognition that while nearby neighbors do not inherently provide services themselves, they may assist in locating services.

#### The full isolation score equation:

((providers within 5 miles) + (providers within 10 miles)) \* ((1.2 for high inter-camp access) or (1.1 for moderate inter-camp access) or (1 for low inter-camp access))

#### **Figure 9: Isolation Score**



Figure 10: Isolation Score by Camp Type







RURAL
LARGE URBANIZED AREA (pop. 200,000 or more)
URBANIZED AREA (pop. 50,000 to 199,999)
SMALL URBAN AREA (pop. to 49,999)

These three metrics were combined to create the "Isolation Score". Figure 13's "Isolation Index" shows each camp's Isolation Score grouped into the following classifications:

Extreme Isolation: 3 or less High Isolation: between 3 and 10 Moderate Isolation: between 10 and 25 Low Isolation: 25 or higher

### Conclusion

The scoring method above shows 31 camps classified as extremely isolated. All 31 of these camps are also classified as a "Rural" by the Pennsylvania Department of Transportation.

Figures 10, 11 and 12 were included to provide insights beyond finding the most isolated camps. What these graphs provide is a look into potential correlations when looking more generally at camps. For example, there is a trend of camp FID's 269 and higher (see Figure 9) to have a higher than normal average score. When grouping by Camp Type (Figure 10) we can see that "Single Family Housing Unit" and "Year Round" are strongly correlated with higher Isolation Scores. This may be partially explained by Figure 11 as those same camps also tend to reside in the "Large Urbanized Area" Urban Type.

One could conclude that camps within an urbanized area of some kind, will generally have access to more services than those located within an Urban Type of "Rural". This is supported by the Figure 12 violin plot as rural designations are weighted well below all other urban types.

For policy decisions, camps that have the traits of "Rural" combined with either "H2A" or "Seasonal" would be prime candidates for anti-isolation efforts. Otherwise, the camps highlighted in Figure 13 should take priority.

#### Figure 12: Isolation Score by Urban Type, Violin Plot





#### Figure 13: Isolation Index