

Rurbanization and the Countryside Urban Web in Indiana

THOMAS FRANK BARTON

Indiana University, Bloomington, Indiana 47405

In contrast with urbanization, whereby an increasing proportion of the population in a political unit lives in settlements with populations of 2500 or more, rurbanization occurs when a higher proportion of the population in political units live outside of city boundaries, but do not qualify as farmers. Starting with the 1920 Census the rural population has been divided into the two categories: nonfarm and farm. In 1970 the nonfarm family was rural annually selling less than \$50 worth of crops or livestock from an area of 10 acres or more, or less than \$250 worth from an area of less than 10 acres. If the income from crops and livestock sold was higher than the amount just described, the land was called a farm and the occupants were farm dwellers.

Indiana's Rurbanization

In 1920, rural nonfarm occupants accounted for 19 percent of Indiana's total population. The percentage increased to 28 by 1970. Percentagewise the 50-year growth of the nonfarm population does not appear too significant because urban growth was much greater.

However, if one concentrates on the rural population only and compares the steep decline of the farm with the rapid growth of the nonfarm, the significance of this new category stands out in bold relief. During the 50 years 1920-1970, the rural farm population in Indiana declined from 902,820 to 372,862—a decline of 242 percent. In contrast, during the same half century the nonfarm dwellers increased from 544,715 to 1,437,070—an increase of 273 percent.

Countywise Rurbanization

During the last half century, especially since World War II, countywise rurbanization has flourished. The number of counties in which the nonfarm population outnumbered that of urban and farm combined increased from nine in 1950 to 27 in 1960 and 32 in 1970. The nonfarm outnumbered the combined urban and farm population in more than one-third of Indiana's 92 counties (FIGURE 1). Also by 1970 rurbanization had developed so rapidly that, in addition to the 32 counties in which a majority were nonfarm dwellers, there were another 30 in which the nonfarm population was larger than the largest city in each county (FIGURE 1). County rurbanization reached a peak in Brown County where 89 percent of the people were nonfarm dwellers. In contrast, in 1960 only one county, Switzerland, located in southeastern Indiana, had over 50 percent of its population living on farms. However by 1970 over half of Switzerland's population was nonfarm. In 1970 only in 12 counties did the farm population account for 25-49 percent of the population (FIGURE 2).

Distribution within Counties

Within counties, rural nonfarm dwellers are found in four general areas. These are: (1) on one or both sides of all-weather roads, forming ribbon-like streamers or shoestring settlements extending for miles from a city boundary, often as far as the adjacent city or county seat in the next county, (2) in settlements which have populations of less than 2,500 (3) on the fringes of cities adjacent to city

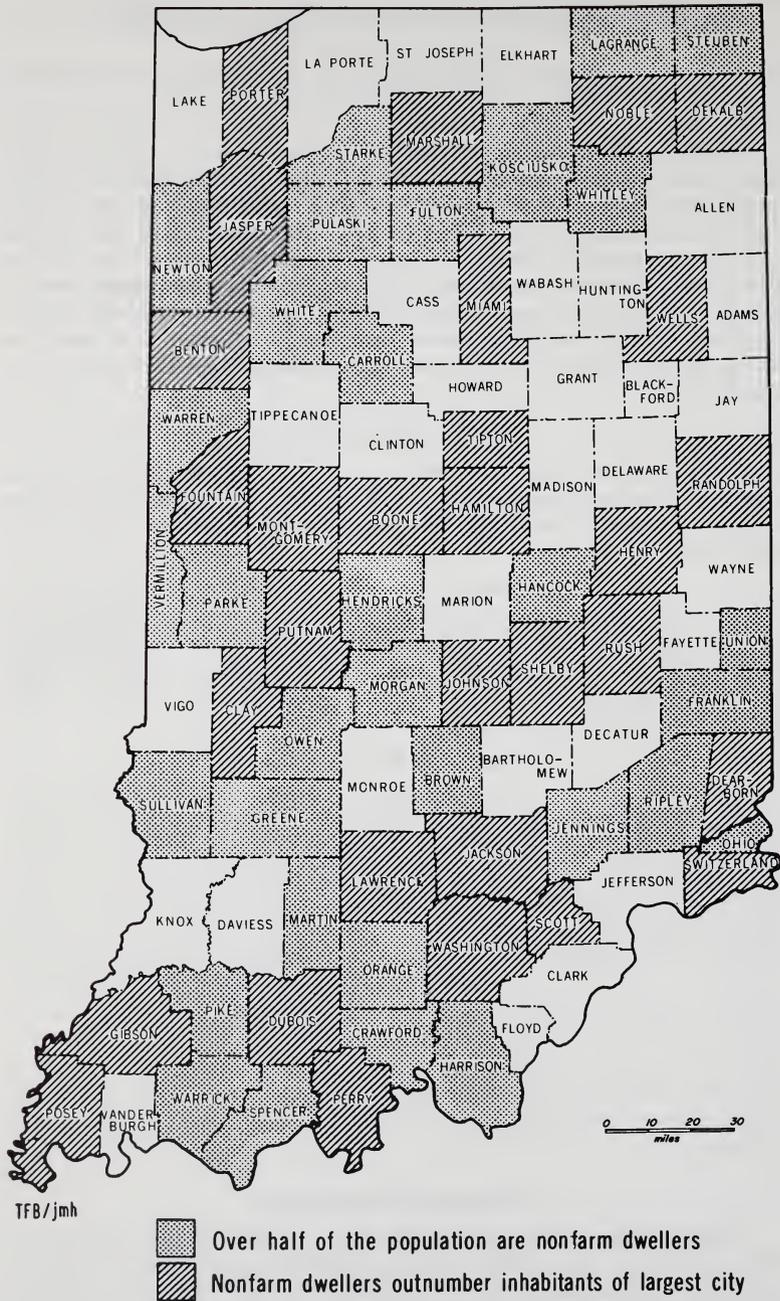


FIGURE 1. *Rural Nonfarm Dwellers in Indiana, 1970.*

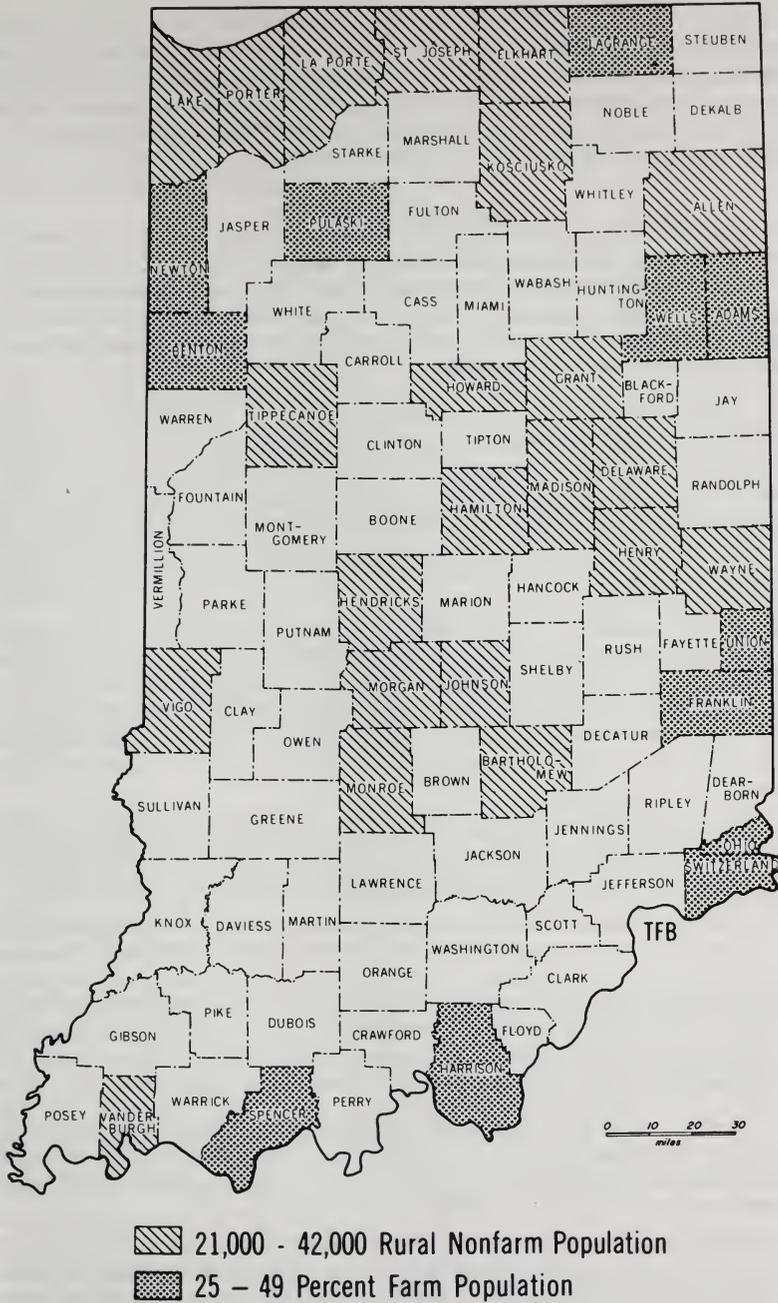


FIGURE 2. *Farm and Rural Nonfarm Population Concentrations, 1970.*

boundaries and/or in leapfrogging subdivisions some distance from the boundaries and (4) although fewer in numbers, nonfarm dwellers also are found scattered about in a buckshot pattern throughout counties. Regardless of location, the nonfarm population has created numerous problems for the farm and urban people as well as for themselves. This paper will be limited to a treatment of the shoestring settlements which form the countryside urban web.

Countryside Urban Web

In contrast with the urban web of city structure, consisting of circulation-business-industrial corridors which enmesh residential and recreational land in cities, the corridors built in the countryside consist of all categories of urban land use although most of the land is used for residential purposes. These urban land use corridors enmesh the farm land.

Prior to the 20th century in Indiana there was a comparatively distinct cleavage between land used for various city purposes and the surrounding farm land. But in the last half century, with the development and use of gasoline-powered vehicles and the construction of hard surface roads connecting the cities, the nonfarm dwellers began to buy land for residential purposes adjacent to all-weather roads serving the same purpose as paved streets in the city. Later, business establishments were added within the ribbons of nonfarm residences and then small and large industries located in these urban land-use corridors. Nonfarm uses of land multiplied and the corridor tenacles extending from cities grew in length until sometimes they coalesced with the corridors extending outward from adjacent cities. This growth produced a web of urban land-use corridors which surrounds the farm land. Generally, the meshes of the web are smaller near the cities and larger and disconnected midway between cities. The corridors are generally wider near the cities and decrease (but not uniformly) in width or become disconnected between the larger settlements.

In these urban countryside corridors, in addition to the all-weather roads, there are concentrated other circulation systems such as rural water, primary telephone and electric lines and truck, school bus and workers traffic routes.

Some agriculturalists, urbanologists, government officials and planners, as well as members of the general public, believe these corridors are one of the forces most destructive of land, water, wildlife and scenic beauty to appear in the last half of this century. Traffic flows are increased by vehicles transporting nonfarm dwellers to cities. Stop signs and stop lights are placed at closer intervals on the primary roads, slowing traffic speed and leading to congestion. The situation just described is widespread in the countryside corridors of Marion County.

By living in the county the nonfarm dwellers must drive long distances weekly to the city to work, to shop and for social engagements. This extra mileage results in an enormous waste of energy, time and natural resources used in powering and replacement of vehicles and maintenance of highways.

These urban land-use corridors create additional problems of (1) natural drainage distribution, which leads to flooding, (2) inadequate human and other waste disposal, (3) acceleration of pollution of various water resources by failing septic fields, (4) proliferation of poor tertiary roads, (5) illegal disposal of garbage and trash, (6) disruption and blocking of wise land use and proliferation of poor land use, (7) skyrocketing public service costs and (8) spawning of rural slums.

Decade of the 1970s and 1980s

Will the 1980 census reveal an increase, decline or leveling off of the growth of rurbanization in the 1970s in Indiana? Will rurbanization continue throughout the 1980s? Some of the variables which need to be considered in making projections are: (1) definition of a farm, (2) speed of annexation, (3) county metropolitan government, (4) enforcement of better land use, (5) transportation costs, (6) increase in public mass transit and (7) changes in technology.

Definition of a farm. One of the primary reasons for believing that rurbanization continued during the 1970s is that in 1975 the U.S. Department of Agriculture and the Census Bureau changed the criteria used to classify an acreage as a farm. In the 1980 census, for an acreage to be classified as a farm, the owner and/or renter must sell annually at least \$1,000 worth of livestock or crops, regardless of acreage size. Before this change one could only qualify as a farmer if his annual sales amounted to \$50 from 10 acres or more, or \$250 from less than 10 acres. The size of the acreage is no longer a criteria in the new definition. Although in 1976 it was estimated that the new definition would declassify over half a million farms in the United States, a decrease of 16 to 20 percent, accelerated inflation in the last five years may have greatly reduced these estimates. Many believe that the 1975 criterion was not too realistic and that inflation has played havoc with the dollar amount of sales. It takes only one of a few horses, cattle, pigs, sheep or even dogs to bring \$1,000.

Annexation. If the city annexation process were not so handicapped in Indiana by excessive requirements established in court cases and by long drawn out court battles, annexation could turn a large number of nonfarm dwellers (clustering adjacent to but just outside city boundaries) into urban dwellers. Annexation has moved at a snail's pace in the 1970s, and there is little likelihood that annexation will greatly reduce the rurbanization process in the next decade.

County metropolitan government. The adoption of county metropolitan government eliminates the nonfarm dwellers statistically but not the problems they have created. Moreover only Marion County (where the state capital is located in Indianapolis) has adopted Unigov. It seems improbable that any other county will adopt this form of government during the next decade, so county metropolitan government soon may not be a deterrent to rurbanization.

Better land use. In many of the 62 counties in Indiana where the nonfarm dwellers outnumber the urban and farm population or outnumber the dwellers in the largest city, county or area planning agencies are so weak and ineffective that nonfarm residential use has a higher priority than farming. In only a few of these counties have post World War II soil surveys been made and published that contain valuable information on which to base wise land use decisions. Even in the counties where recent soil surveys have been made, the nonfarm population has grown so large, and carries so much political clout, that it is very difficult to bring about wise land use reform. Apparently, most nonfarm dwellers are not adequately informed on the principles of management of land, water, vegetation, wildlife and geologic resources. Consequently too often they flock to public hearings and engage in quarrelsome, negative debate. They interrupt and shout down those who attempt to present reasonable considerations. The road leading to attainment of wise land use appears to be a long rocky one in counties dominated by nonfarm dwellers. Wise land use policy is at present an insignificant deterrent to rurbanization in Indiana.

Transportation costs. In the 1980s rurbanization may be slowed down, halted or reversed if gasoline costs soar to over \$2.00 per gallon and automobile and truck prices continue to climb. Most nonfarm families of four with two pre-college age children, and with both husband and wife working, have two or more cars. Many of these nonfarm commuters drive hundreds of miles each week. The school bus may pick up their children and take them to the consolidated schools, but the parents still need to drive children under 16 years to many school, church, city and other activities. People who decided to buy an acreage and build a home in the country five to 10 miles or more from the city prior to and since 1973 when gasoline was fifty cents a gallon, may plan to move to the city when gasoline reaches \$2.00 or more. People who were attracted to country living because taxes were lower may soon realize that part or most of the tax advantage has been wiped out by the soaring costs of driving a car or truck.

In addition to these costs of commuting, the nonfarm population faces the possibility of road deterioration due to skyrocketing costs of road maintenance and the problem of securing enough funds to maintain the present roads. Moreover the expansion of the all-weather roads may grind to a halt. The corridor dwellers have not only put a heavy burden on road maintenance but also they have exerted heavy political pressure for additional all-weather roads.

Public mass transit. The growth of city mass transit may become attractive enough to influence some nonfarm dwellers in a few counties to come back to the cities and encourage others not to buy or build residences in the country-side. However, public mass transit will not exert too great a pull on these dwellers in many counties because the cities in many of the counties may be too small to develop public mass transit. In 1970 Indiana had only nine cities with populations of over 50,000 but 142 cities with populations of less than 50,000. These smaller cities are concentrated in the same counties as the nonfarm population.

Indiana has taken action to develop public mass transit in its cities. In 1980 the Indiana legislature passed a mass transit funding bill that will probably provide at least \$10 million to help develop and operate public transit systems in 1981. Transportation was granted 1 percent of the state gross sales tax revenues and mass transit is to receive 95 percent of that. In the past public mass transit had been handicapped by inadequate local funding. In 1979 the state was allocated about \$25 million of federal funds for mass transit but about \$15 million of it was never used, because local funding was not available to provide matching funds.

Although city mass transit is expected to grow in Indiana, the nonfarm residences are so widely scattered that county-wide mass transit in the country-side urban corridors should not be established because it would necessitate unreasonable subsidization.

Changes in technology and economy. Unfortunately one cannot foresee the changes in technology or the economy or political policy that may stimulate the growth or decline of rurbanization. Many such diverse factors as (1) power lawn mowers and garden tools enabling people to more easily care for large residential areas, (2) rapid expansion of all-weather roads, (3) the rapid growth of 4-H programs requiring larger areas for raising livestock and (4) federal policy of subsidizing rural electrification, rural water systems and rural development in general, have stimulated rurbanization both in Indiana and other states.

Summary

The percentage of nonfarm dwellers in the total population of Indiana increased

from 19 percent in 1920 to only 28 in 1970. During the 1960s rurbanization leveled off and grew less than one percent. But in 1970 the nonfarm population numerically exceeded that of Indiana's nine largest cities with populations of over 50,000, or the remaining 142 cities. Rurbanization saps the population growth of cities and creates a web of urban land use that surrounds farm land and disrupts proper use of natural resources. The web pattern of urban land use corridors interferes with the growth of both agriculture and cities—and is one of the most wasteful types of urban land use. In spite of stimulating the growth of rurbanization by subsidization, the federal government in 1974 published a volume entitled *The Costs of Sprawl: Environmental Costs of Alternative Residential Patterns at the Urban Fringe*. This volume stresses the fact that nonfarm development on the *fringes* of cities is the most expensive method of community development. The study was made by a private company. The volume was published by the Superintendent of Documents, U.S. Government Printing Office, Washington D.C. 20402.

Now we may need a private study of the *urban web in the countryside* subsidized by the federal government. Until such action is taken, geographers may find rurbanization and the countryside urban web interesting topics for research. County planners and county commissioners as well as other appointed and elected county administrators desperately need information which can be provided by county and regional studies. These studies could provide valuable data needed for planning and regulating urban land use development in the countryside corridors that are already in existence, and regulating more carefully future rurbanization of all kinds. More information is needed before administrators can carefully decide as to whether to make illegal, reduce, restrict or plan and zone corridor rurbanization growth.

Will geographers and others in the various university disciplines provide the studies needed?