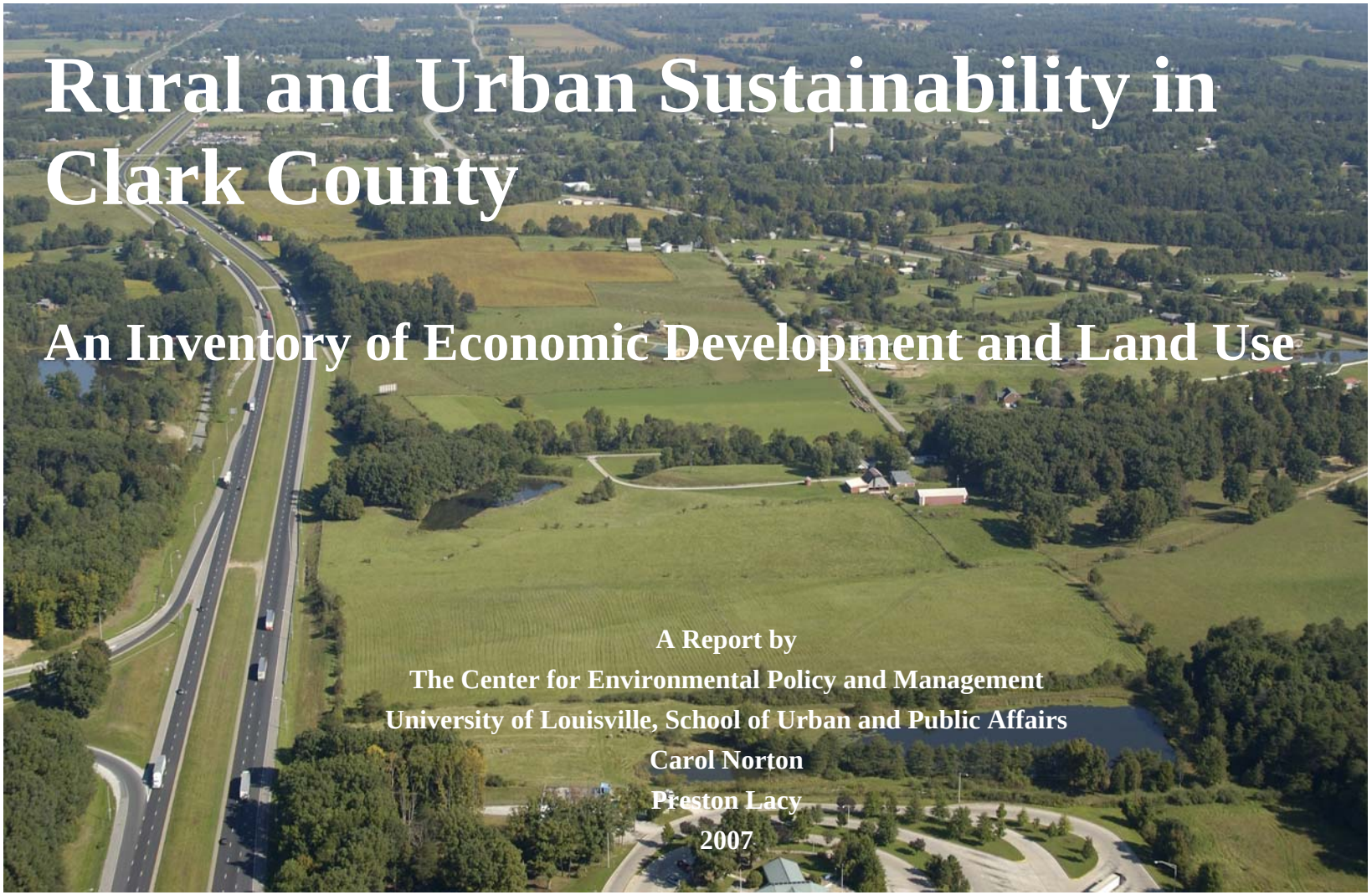

# Rural and Urban Sustainability in Clark County

## An Inventory of Economic Development and Land Use


**A Report by**

**The Center for Environmental Policy and Management**

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**2007**

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The Center for Environmental Policy and Management at the University of Louisville would like to acknowledge Jeffersonville Main Street, Inc., and its Executive Director, Jay Coursey Ellis, for lending support and funding for this study.

We would also like to acknowledge and thank the following for their contribution of time, talent, and knowledge, for without them this report could not have been written:

Photographs – Keith R. Mountain, Ph.D.; Associate Professor of Geography and Geosciences, University of Louisville
Maps – Josh Human, Project Manager, University of Louisville Center for Hazards Research and Policy Development

Carolyn Makowsky, Clark County Assessor and staff; Barbara Bratcher-Haas, Clark County Auditor and staff; Clark County Recorder and staff; Hyun T. Lee, Clark County Highway Director; Rick Dickman, Director, Clarksville Redevelopment Commission; Chester Hicks, Planning Director, City of Jeffersonville; Barry Cahill, Director, Department of Redevelopment, City of Jeffersonville; David Trotter, Clark County Office of Purdue University Cooperative Extension Service; Michael Dalby, President and CEO, One Southern Indiana; Matt Hall, Vice President, Economic Development, One Southern Indiana; Marc Elliott, Executive Director, River Ridge Development Authority; Matt Wagoner, CFM, FMSM Engineers; Indiana State Brownfields Office; and the Indiana Department of Revenue.

## ***Executive Summary***

Not unlike many communities throughout the United States, Clark County, Indiana, has had to face the pressures of being located within a large metropolitan area. Historically, Clark County has been a rural county with land that is diverse in nature. The expanse of open farmland is framed by the miles of riverbank along the Ohio River and the forested foothills of southern Indiana's knobs. Today, Clark County is counted among the 13 counties that comprise the Louisville MSA.

In 2006, Louisville was ranked first in the nation as having the most counties in its *exurban* area. The word "exurbia" is defined as pockets of development "*at the urban rural periphery…bleed[ing] into smal-town communities with an agricultural heritage*" (Berube, 2006). Clark County, with its location across the Ohio River from Louisville, is not immune from the effects of this urban growth pattern. Farmland and open space is being replaced by single-family residential subdivisions and big box retail development.

Results from a countywide survey indicate that local citizens place a high value on the amenities of living in a pastoral setting, while enjoying the benefits of living within a close proximity to a larger urban area. Responses directed as to why residents like living in Clark County include comments like *"I can work in a metropolitan area and then after a short drive, be home at a rural setting"* and *"Small town atmosphere next to large city"* were offset by remarks about what they dislike about living in Clark County such as *"The lack of attention to preserving the scenic and historic character of the area"* and "*The uncontrolled development of farmland"* as well as *"… what appears to be unchecked sprawl"* (Envision Clark County!, 2003-2004).

At the request of Jeffersonville Main Street, the Center for Environmental Policy and Management at the University of Louisville has studied the agriculture industry, economic development and land-use practices in Clark County. The study is broken down into six parts: (1) a demographic profile of the people of Clark County to gain a better understanding of population trends and statistics that are directly related to the economy, such as income and jobs; (2) the county's agricultural industry, including crop and livestock production, revenue and expense, and agri-tourism; (3) an economic analysis and how competitive business and industry in Clark County is when compared to larger regions; (4) a look at what it cost to convert farmland to residential uses, with a focus on utilities, roads, and

public services; (5) strategies for farmland preservation which include reusing and redeveloping brownfields, as well as examples of policies and programs that have been successfully implemented across the country; and an analysis of Clark County's current land use.

Based on our research, this report identifies findings that may either promote or impede farmland preservation.

*Finding 1:* Though the Clark County's population growth rate from 1990 to 2000 was consistent with the state and neighboring Floyd County, it outpaced Jefferson County, KY. Jobs in the county do not pay as well as in other parts of the state, and this may be directly related to the fact that the county's workforce lags behind in educational attainment (14.3 percent of the population have earned bachelors or higher degrees). Nearly the entire workforce in Clark County is employed within the Louisville MSA, and half of Clark County's working residents have jobs within the county.

*Finding 2:* In 2002, 42 percent or 100,602 acres in Clark County were in active agricultural production; however the total number of farms and acreage continues to decrease due in part to suburban development occurring throughout the county. The average value per acre is rising steadily signifying that increasing development trends in the metropolitan service area of Louisville, KY continue to drive the land values up on farmland throughout the county.

*Finding 3:* Since the rolling topography in areas of the county are too steep for large scale crop production, Clark County has ample pastureland and ranks as one of the top beef cattle producers in the state.

*Finding 4:* According to the 2000 Census, only 0.4 percent, or 303, of Clark County's full-time workforce was classified in the agriculture, forestry, fishing, and hunting industry, compared to 1.2 percent statewide, but these numbers do not capture the true amount of people working on farms, because the majority does so part time and often have full-time jobs in different sectors. The 2002 NASS Census shows that, $1,184,000 was spent on hired farm labor, contract labor expense totals were $367,000 and custom work totals were $781,000. Since seasonal workers are often paid in cash for their services, the numbers working in Clark County are completely undetected in census data on employment in the agriculture industry. Together these factors make it difficult to estimate the true number of full- and part-time employees in the agriculture industry and illustrates how

the numbers provided by the census can be misleading and lower than the true amount of employment that occurs on agricultural land.

*Finding 5:* The future of biofuels, along with diversifying crop production when and where economically feasible, can increase the already important agricultural economy in Clark County. Even though the bottom line dollar may not easily compare to commercial or industrial sectors, there are many externalities that are not realized for agricultural land.

*Finding 6:* The rural character of Clark County fits hand-in-hand with Indiana's agritourism initiative. The western portion of the county has a strong foothold in this industry with businesses such as Joe Huber Family Farm and Restaurant and Stumler's Orchard. Protecting these areas from encroaching development can assure this industry's capabilities to maintain and expand their businesses, and fostering and growing this viable industry on a county-wide level.

*Finding 7:* Though jobs related to *Information Services, Finance and Insurance,* and *Administrative Support* represented only 13 percent of total employment in 2004, employment had more than doubled in each of these industries over a six-year study period. While employment in both *Retail* and *Accommodation and Food Services* grew regionally, it declined significantly in Clark County. Employment in *Manufacturing* remained stable; however, the impending closure of the Colgate-Palmolive plant will impact this sector significantly.

*Finding 8:* *Transportation and Warehousing* stands out as the one industry that has a significantly higher concentration in Clark County than in both the U.S. and Indiana, and higher than the concentration of these jobs when compared to the Louisville MSA. This suggests that Clark County has greater advantages in this industry which may be due to Interstate-65 cutting through the county and the county's port on the Ohio River. Being minutes away from the Louisville International Airport and the UPS World Port adds to the marketability of this sector.

*Finding 9:* Clark County's water and sewer services are both publicly and privately owned and operated and to date there are eight separate water companies, one sewer utility and a combined water and sewer company. Steering growth to utility service areas can be a challenge in Clark County because there can be an overlapping of providers within the same area.

*Finding 10:* Large tracts of land converted to subdivisions for a

relatively small number of residents result in an immediate increase in costs for services in terms of roads, schools, and public services (fire, police, and emergency services). Residents moving to these homes expect no less than their urban counterparts.

*Finding 11:* The main revenue source for the county highway department is the tax revenue from gasoline sales tax, representing about 99 percent of the department's budget and 60 percent of this money is dedicated for salaries and benefits. Revenue coming into Clark County is distributed based on a formula that factors population, vehicle registrations, and road mileage. Under Indiana law, the county does not receive any revenue from vehicle registration for trucks; however since most of the land use area in the county is agriculture-based, many of the residents drive trucks, and trucks inflict more damage to roads than automobiles.

*Finding 12:* By law, all county roads must be built and maintained to meet state highway standards and without incremental increases to the county's road budget, maintaining these roads has been a challenge for the county road department. As new residential developments are built throughout the county, the existing county roads carry the impact of more drivers, even when the subdivision's roads have come under the jurisdiction of an annexing municipality. The result is an increase in traffic congestion and accidents and higher levels of maintenance. With no county plan to concentrate residential development in any particular area, subdivision developments will continue to occur haphazardly in different locations around the county and impose a negative impact on the county road system.

*Finding 13:* Based on the findings of the American Farmland Trust and other research groups that have conducted analyses on land use patterns and its effect on fiscal budgets, we can safely assume a similar study on Clark County's land use and revenues and expenditures will more than likely result in the same findings – ***(a) the costs of unchecked development falls upon existing county residents*** and ***(b) even though the conversion of farmland and open spaces to residential use may increase the county's tax base, the costs of provision of services outweighs the increased property tax revenue.***

*Finding 14:* During the seven-year time span from January 1, 2000 to January 1, 2007, 144 new single-family residential subdivision developments were approved and recorded; 45 of these are located within the boundaries of one of five incorporated municipalities, each with separate planning

commissions. The subdivision sites are scattered throughout the county and are not clustered in areas close to urban services. It is important to note that a significant number are located in the eastern portion of the county; there is little doubt that the costs for community services for households in these subdivision would outweigh residential subdivisions located near urban areas.

*Finding 15:* If Clark County continues on the existing pattern of converting farmland and open space to residential developments, the county stands to lose a substantial amount of its prime agricultural land. Given the current trends, the county will lose much of its agricultural base in the areas located the furthest from urban services, such as police and emergency response crews. The public costs incurred from converting these farmlands will far outweigh the revenue collected from land classified as residential.

*Finding 16:* There are several policies local governments can adopt in order to better achieve the preservation of high-quality farmland while still allowing for development to occur. These policies would successfully help Clark County to maintain its rural character in certain areas while allowing for development closer to already developed infrastructure, thus saving tax dollars on infrastructure expansion.

*Finding 17:* A Transfer of Development Right (TDR) Program allows the transfer of potential development from areas that a community wants to preserve to areas that are more suitable for development. Use of a TDR program could potentially allow a contiguous arrangement of farmland to enable the local farming economy to sustain itself while at the same time creating a barrier protecting the best agricultural land from urban development and diverting the city expansion to more marginal farmland.

*Finding 18:* Purchase of Development Rights (PDR), also known as Purchase of Agricultural Conservation Easements (PACE), are programs whereby development rights are purchased from individual property owners with the stipulation that though current and future owners maintain control over the land, they are bound by a legal agreement to never develop their land for residential or any other non-agricultural use. Farmers are paid by subtracting the value of what the land is worth if sold for development from the fair agricultural value or the worth were it sold as agricultural land.

*Finding 19:* Land Trusts are one of the most common ways to

permanently preserve agricultural land by accepting donated conservation easements that restrict development rights; these trusts also purchase conservation easements or directly buy properties at an agreed upon discounted rate from landowners. Two local land trusts have a Clark County presence: (1) Oak Heritage Conservancy protects natural areas and open space in Southern Indiana, and (2) Kentucky River Fields, which operates in three Indiana counties and three Kentucky counties adjacent to the Ohio River. River Field's objectives includes securing conservation easements along the river's watershed including working farmland and natural areas. To date neither of these trusts has actually acquired land in Clark County, but both could potentially help form partnerships in the future in order to create a successful public/private farmland preservation program along with the local government.

*Finding 20:* Urban service boundaries (USB) or urban growth boundaries (UGB) are planning tools that restrict new residential and commercial growth to defined areas on the urban fringe in an attempt to lessen the cost of increased county and school services, resulting in fewer miles of county roads to bear the increase in traffic, shorter distances for police, fire, and emergency responses, shorter school bus routes, etc. For Clark County, establishing effective USBs or UGBs is hampered by the ability to limit utility services in non-developed and rural areas; and the absence of a planning commission that oversees land-use decisions for the entire county (this includes major cities and towns). This planning commission could function as an advisory board and oversee long-range planning for the entire county. The outcome could be planning for residential and commercial/industrial growth in areas well-served by utilities, roads and highways, and availability of land suitable for development, with an emphasis on redevelopment and infill development, as well as providing a forum for open dialogue among county, and city and town officials.

*Finding 21:* Economic benefits from the redevelopment of brownfield sites include an increase in tax revenue associated with property values and employment, elimination of potential health hazards associated with contaminated properties, and revitalization of surrounding properties and neighborhoods that were pulled down by the existence of blighted and abandoned properties. Since properties are voluntarily listed with the Indiana Brownfields Program, sites that have potential contamination within Clark County (such as the Colgate plant in Clarksville which is slated to close within the next few years and abandoned properties with underground storage tanks) are not included with the state's brownfield inventory. The Indiana

Department of Environmental Management (through its Indiana Brownfields Program) is a resource for educational, financial, technical, and legal assistance for the clean-up and reuse of brownfield sites.

*Finding 22:* Greyfields, defined as abandoned or run-down retail and commercial sites, present possibilities for infill development that would be an alternative to sprawling development in agricultural and other undeveloped areas. The advantages for redeveloping these sites include proximity to major roads and highways, existing infrastructure, nearby residential developments, sizeable lots with potential for mixed-use and high density developments. Existing greyfield sites in Clark County can be found along Eastern Boulevard in Clarksville and Tenth Street (Highway 62) in Jeffersonville.

*Finding 23:* Development in Clark County is highly concentrated in the southern tip of the county with over half of the county's total population living in Clarksville, Jeffersonville, and Sellersburg.

*Finding 24:* The River Ridge Business Park is destined for development based on its proximity to the planned bridge connecting eastern Jefferson County and Clark County and the fact that Louisville Metro has exhausted its supply of large tracts of land for industrial development. Undoubtably, pressure will be placed to convert all undeveloped land in this area of the county for residential and retail development.

*Finding 25:* The size and scale of retail development in Clarksville suggests a dependency on attracting consumers from the whole of Clark County and surrounding Indiana and Kentucky counties. As new commercial areas are being developed, older big box sites are being vacated and abandoned. These areas should be studied and might be best suited for mixed-use infill development projects.

*Finding 26:* Subdivisions are cropping up in the agriculturally-based area that lies between Sellersburg and State Road 62. It appears that these subdivisions are locating adjacent to the large quarries and cement factories. The ramifications of new residential development in close proximity to these sites should be considered.

*Finding 27:* Though agriculturally-based land is predominant in southeastern Clark County, it appears that residential development has taken a foothold, especially within the SR 3 and SR 62 corridors. A traffic study on SR 3 and SR 62 could

reveal the impacts of this residential growth with regard to traffic accidents, speed, and capacity for traffic volume.

*Finding 28:* If current development patterns continue, the small section of farmland and open space west of Sellersburg that lies between SR 62 and SR 111 may soon be earmarked for subdivisions. This area of the county is also affected by the retail and residential developments in neighboring Floyd County that is concentrated in a triangular area bounded by I-265, the Clark County line, and a ridge of the knobs.

*Finding 29:* Residential developments are being built in some of the farmland in the western part of Clark County. This particular area is noted regionally and statewide for its agricultural businesses (both commercial and tourism) and pastoral setting. Though attractive for single-family homeowners, this area should be protected from encroaching residential development and valued for both its contribution to the local economy and its scenic beauty.

## ***I. Introduction***

Believing that the quality of life of most communities is directly related to the vitality of its historic town center, Jeffersonville Main Street Inc. commissioned this report to examine the links between suburban growth in Clark County and efforts to revitalize the county's older previously developed areas. Based on Clark County, Indiana's current land base and land use, the Center for Environmental Policy and Management of the University of Louisville's School of Urban and Public Affairs has prepared an analysis that addresses the economics of decisions in regard to (a) residential and commercial/industrial development, (b) reinvesting in established areas, which includes reusing "brownfields" and "greyfields," and (c) maintaining agriculture as part of local economic development, including identification of the alternative land development patterns.

To form an understanding of what drives economic development and land-use decision making in Clark County, we fashioned this report around the following areas: population and workforce characteristics; the impact that the agriculture industry has on Clark County which includes how the county bears the costs of converting farmland into residential; the county's employment, where people work, and its economic development practices and strategies; and sustainable land use practices such as farmland preservation tools and techniques, and infill development. The final section of this report is focused on how land is currently used in Clark County, incorporating a series of maps to illustrate our analysis.

## ***II. Clark County Overview***

We begin this report by creating a demographic profile as it relates to Clark County's ecomony. Our primary focus is on population trends, income, education, and location of employment. Population can be directly tied to the demand for residentially and commercially developed land. Income affects a community's revenue stream; higher incomes can increase the demand for real estate investment. An educated workforce correlates with a skilled workforce and a community or region's abilities to attract jobs with high wages. Finally, we take a look at where Clark County residents work. Is Clark County merely a bedroom community for Louisville Metro workers, or is this a county where the majority of its residents not only live, but also gains employment?

### *Population*

The 2000 decennial census figures show that Clark County's population grew from 87,777 to 96,472, or 9.9 percent, from 1990. The county's population growth rate was in line with the state (9.7 percent increase) and neighboring Floyd County (10 percent increase). However, the growth rate was higher than the 4.3 percent seen by Louisville Metro. In terms of land use, Clark County's population increase represents an additional 23 persons per square mile throughout the county, a far lower density rate than Floyd County or Louisville Metro. *(Table 1).* The 2005 projected population for Clark County is 101,592, a 5.3 percent increase from 2000, which indicates growth is accelerating. In 1930, 39 percent of the county's total population lived in Jeffersonville; in 2000, the percentage has dropped to 28, signifying more residential growth in other parts of the county. To the extent that this new population has settled outside previously urbanized areas, it has generated pressures on public infrastructure that imply higher public sector costs per new resident than would have arisen had they settled in the county's urban centers .

**Table 1: Population, 1990—2000**

| | 1990 Population | 2000 Population | Population Increase | Percent Increase | Pop.Increase Per Sq. Mile |
|---|---|---|---|---|---|
| Clark | 87,777 | 96,472 | 8,695 | 9.7 | 23 |
| Floyd | 64,404 | 70,823 | 6,419 | 9.9 | 44 |
| Louisville Metro | 664,937 | 693,604 | 28,667 | 4.3 | 75 |

*Source: U.S. Census*

*Income*

Covered employment and wages refers to workers covered by state unemployment insurance and Unemployment Compensation for Federal Employees (UCFE). With 45,466 covered employees, Clark County ranked 13th out of the 92 counties in Indiana in 2005; however, the county's average earnings per job placed farther behind at 38th in the state. The average earnings per job in Clark County were $31,016, as compared to Indiana's average of $35,431 and $40,677 for the U.S.; between 1994 and 2004, the county's per capita income grew by 18.5 percent (adjusted for inflation), slightly higher than the 14.1 percent experienced by the state and the nation's per capita increase of 16.9 percent (STATS Indiana, 2007).

*Educational Attainment*

Income and education attainment work hand in hand. Clark County's percentage of high school graduates among adults, age 25 and older, is 79.9 percent, placing the county 58th among the other 92 counties in the state; 14.3 percent have earned bachelors or higher degrees, ranking the county at 32nd in the state. These percentages are slightly lower than the state averages of 82.1 percent of the population 25 and older with high school diplomas and 19.4 percent with bachelors or higher degrees. Indiana ranks 44th in the nation on higher education; 24.4 percent of adults in the U.S. have bachelors degrees or more. An educated workforce is essential for securing jobs and industries with higher wages; a viable strategy for increasing the percentage of residents with higher levels of education would be investment and improvements in local schools and their programs. Improving the quality of local schools not only boosts performance levels of the local workforce, it is also a tool to build on a community's strength for attracting (and retaining) potential employers and workers moving to the area.

*Place of Employment*

Though Clarks County's workforce, ages 16 and older, grew by 16 percent from 1990 to 2000, we find that there was basically no change in the percentage of those workers whose jobs were located within Clark County and within the Louisville MSA; in other words, the distribution of jobs held by Clark County residents remained consistent over the 10-year period. (*Table 2*) Nearly the entire workforce in Clark County is employed within the Louisville MSA, and half of Clark County's working residents have jobs in the county. More than two-thirds of workers travel less than 30 minutes to their jobs, however, in the

decade between 1990 and 2000, we see a gradual decrease in those traveling less than 30 minutes to work that is offset with a gradual increase in the percentage of workers driving 30–59 minutes to their jobs. This could indicate one of two assumptions: (a) as workers lose their Clark County jobs they have to travel outside the county to find work; and (b) people employed in jobs outside Clark County are moving into the county from other parts of the Louisville MSA. Census data also reflects how dependent the county workforce is on personal vehicles, and the lack of effort to cutback on highway congestion, such as park-and-ride carpool and bus lots.

**Table 2: Workforce Migration**

| **Clark County, IN** | **1990** | **2000** |
|---|---|---|
| Total workers 16 and older | 41,646 | 48,343 |
| Workers 16 and over with jobs in Louisville MSA | 96.6% | 97.4% |
| Workers 16 and older with jobs in Clark County | 51.8% | 51.1% |
| Travel time to work: | | |
| Less than 30 minutes | 73.9% | 70.8% |
| 30–59 minutes | 21.3% | 24.1% |
| 60 minutes or more | 4.8% | 3.0% |
| Drove alone in car, truck or van | 81.4% | 84.2% |

*Source: U.S. Census*

## ***III. Farmland in Clark County***

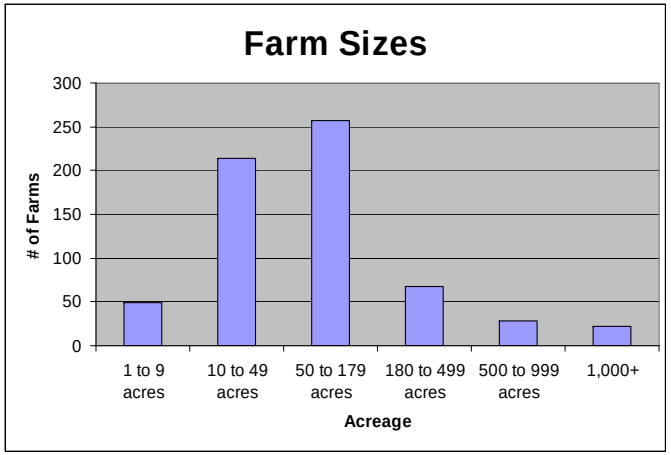
Agriculture-based income and farmland are often times undervalued or even overlooked by economic development officials. Frequently land speculators equate open, pastoral fields with fast and cumbersome-free development. Undeveloped land is often cheaper to purchase than properties with existing structures and does not carry the stigma of potential contamination. However, land used for agricultural purposes contributes to a community's income and in return draws less on publicly-funded services than residential and commercial or industrial uses. This section provides the economics of farmland in Clark County, from the number of working farms, to the production of crops and livestock, on to income, workers, and the potential for future agricultural-related industries.

### *Farmland*

The state of Indiana has a long history of a thriving agricultural economy. In 2005, Indiana ranked ninth in the nation with $5.58 billion in cash receipts on all production. The top five leading sources of income were corn ($1.51 billion), soybeans ($1.5 billion), meat animals ($1.01 billion), dairy ($503 million), and poultry and eggs ($494 million), accounting for nearly 90 percent of all cash receipts.

Clark County has a total of 240,025 acres, of this 42 percent or 100,602 acres were in active agricultural production in 2002. There were 638 farms in the county averaging 158 acres. (*Figure 1*).

**Figure 1: Clark County Farm Sizes (acres)**

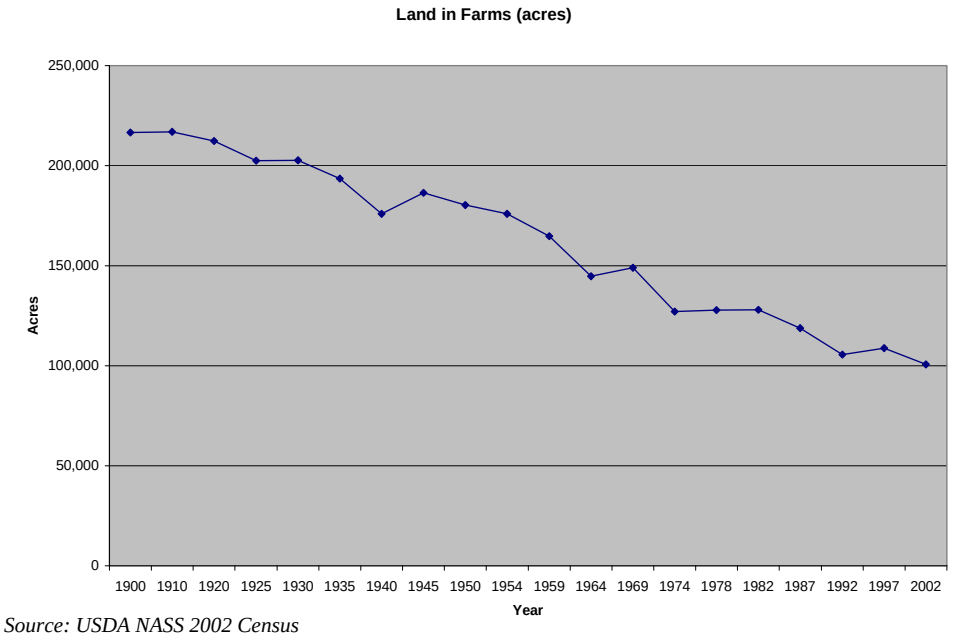



*Source: USDA NASS, 2002.*

The total number of farms and acreage continues to decrease due in part to suburban development occurring throughout the county. In 1997, there were a total of 115,814 acres in production on 765 farms. This is a decrease of 15,212 acres of

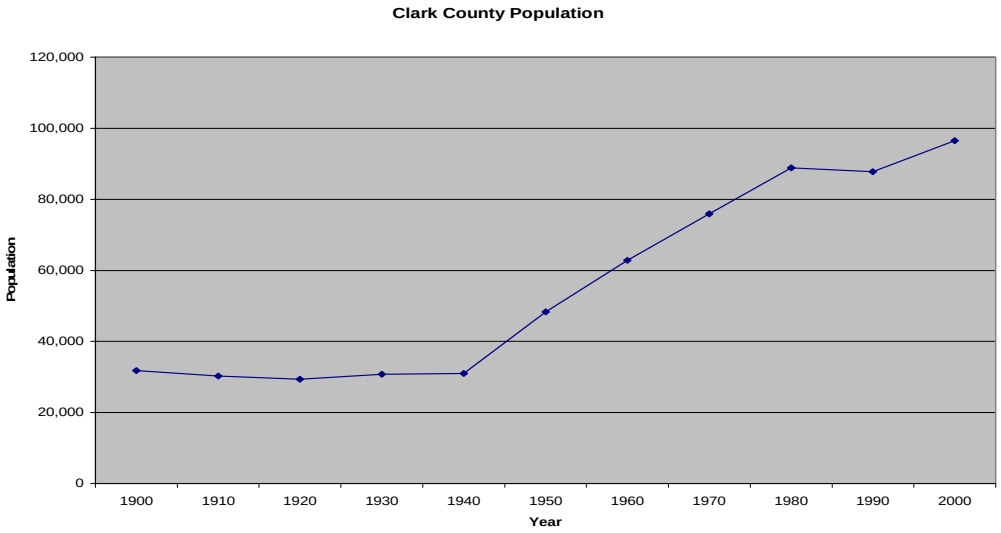
productive farmland, and the loss of 127 farms over the six-year period. Of the total farms in Clark County, 92 percent are family farms, operated by an individual or family. Though the average farm size has increased from 151 to 158 acres from 1997 to 2002, the total acreage of Clark County land in farms from 1900 to 2002 has decreased. Over the past century, the county lost more than half of its farmland, from 216,526 acres to 100,602 acres. It is important to note that nearly half of this decline has occurred within the past 33 years. *Figure 2* and *Figure 3* illustrate the converse relationship between population growth in Clark County and the loss of farmland acreage.

**Figure 2: Clark County Land in Farms (acres) 1900-2002**




*Source: USDA NASS 2002 Census*

**Figure 3: Clark County Historic Population Data 1900-2000**

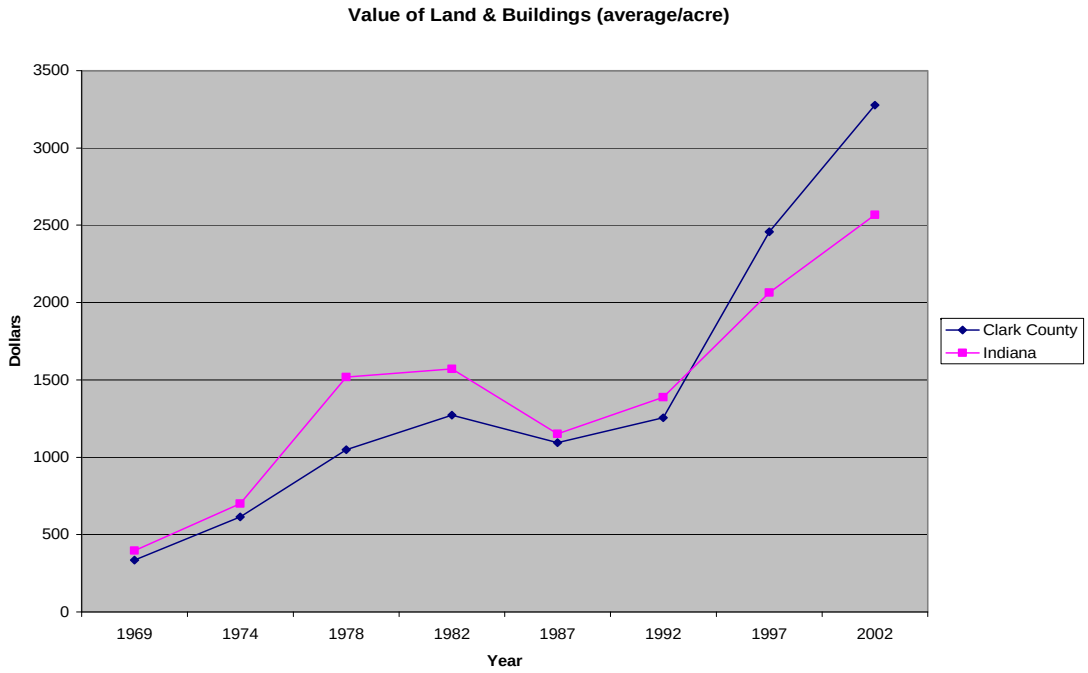



*Source: U.S. Census Bureau*

The estimated market value of agricultural land and buildings was $260,318 in 2002, and $303,300 in 1997. The 2002 average value per acre was 10th highest in the state at $3,276/acre, as compared to the 1997 average of $2,589/acre. This signifies that increasing development trends in the metropolitan service area of Louisville, KY continue to drive the land values up on farmland throughout the county. By 1997, Clark County had surpassed the statewide average per acre value of agricultural land and buildings and continues to grow at a fast rate. (*Figure 4*) As with any county that is part of a metropolitan area and adjacent to a large city, land values are abnormally high when compared to neighboring rural areas. This, however, does not make farmland conversion to urban development more acceptable. Once a farm is for sale, it becomes increasingly difficult for another farmer to purchase it. As land value continues to increase, developers outbid farmers wanting to expand their operations and the land

becomes converted to suburban uses no matter the distance from the nearest urban service area. It is critical that policies are put in place to avoid farmland conversion in rural areas that require expensive expansion of transportation and utility infrastructure.

**Figure 4: Average Value per Acre of Land & Buildings: Comparing Clark Co. & Indiana**




*Source: USDA NASS Census 2002*

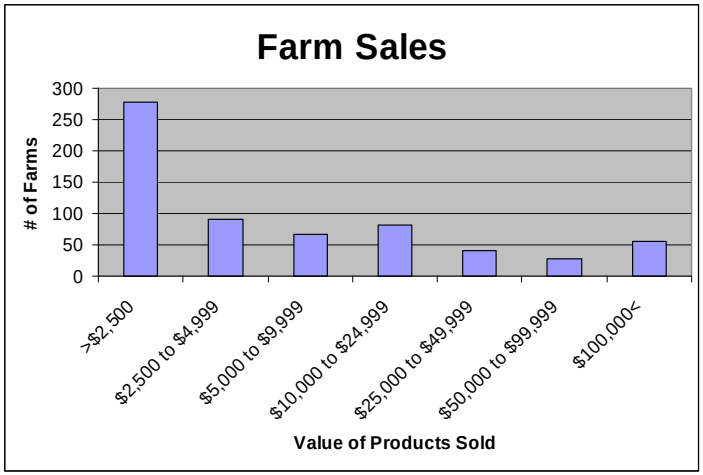
## *Agriculture Production*

The geography of Clark County defines and limits much of the agricultural productiveness when compared to the rest of the state. Much of the county has gently rolling topography; however, some areas are too steep for most crop production. Overall, Clark County is one of the smaller counties in the state, ranking 62nd out of 92 with total land area equaling 240,025 acres. However, in 2002, combining all types of pastureland totaled 19,925 acres, ranking the county 12th in the state. The county was also ranked 19th in the state with 16,560 acres of woodland.

This geography is somewhat different than other parts of the state that were essentially flattened by prehistoric glacier activity. Because of these differences, grain crop production that is still very important to this county's economy often appears in smaller quantities on paper when compared to other areas of the state. On the other hand, because of the larger percentage of pasture land, beef cattle inventories rank 10th in the state at 4,600 head. Tobacco production has also been an important part of the economy and an option for small farms. In 2004, Clark County was the 3rd largest producer of burley tobacco, due largely to its southern location in the state and topography. Tobacco is very susceptible to early frosts and freezes, making it difficult to grow in more northern parts of the state. However, since the buyout of the federal government's tobacco quota program, larger farms with larger labor resources will likely produce more tobacco acreage, forcing smaller farms out of production.

Many farms in Clark County are small and produce relatively small amounts of sales; 367 farms or 58 percent sold less than $5,000 of agriculture goods in 2002, as shown in *Figure 5*.

**Figure 5: Clark County Farm Income**




*Source: USDA NASS Census, 2002*

*Cattle*

As of January 1, 2006, cattle and calf numbers for the county totaled 10,800 which ranked 31st in the state. Cash receipts from selling cattle and calves in 2002 was $2,280,000, which ranked Clark 45th of the 92 counties in Indiana. Beef cattle are an important aspect of the southeast region of the state. As of January 1, 2006, the region ranked 3rd with 33,000 head, following the south central and southwest regions. Of this total inventory, beef cattle made up approximately 4,600 head, making Clark County 10th in the state for beef cattle inventory.

*Crops*

In 2004, Clark County ranked 3rd in the state for burley tobacco production, harvesting 590,000 pounds. All nine counties in the southeast region produce tobacco and this is the only region in the state where all counties raise the crop. The southeast region produced 6,598,000 pounds or 77 percent of entire state's 8,610,000 pounds.

Corn for grain totaled 1,201,460 bushels off of 13,640 acres. This was the 80th rank out of 92 counties in the state because the availability of flat land is not as abundant as other counties throughout the state. To put Clark County's corn for grain total in another perspective, it would rank 25th when compared to the 120 counties of the neighboring state of Kentucky.

In 2005, 299,900 bushels of winter wheat were produced ranking the county 23rd in state. Soybeans produced 1,275,500 bushels on 31,200 acres ranking 76th in the state; hay production was 29th in the state at 27,800 tons. The southeast statistical district was 4th in hay production out of the nine districts. The rolling topography and larger inventory of cattle are two reasons why hay production is ranked higher in Clark County and the region.

*Total Income and Expenses*

In 2004, the total market value of agriculture products sold was $29,706,000. Of this total, $22,689,000 was made on crops and $7,017,000 from livestock. Government payments totaled $1,799,000. Total expenses for the county equaled $24,774,000, leaving the county total realized net profit of $7,392,000. These expenses also include hired farm labor which can either be permanent or seasonal. The details of employment related to agriculture and rural lands will be discussed below.

*Farm Employees*

According to the 2000 Census, there were 75,843 employees in

Clark County. Of all employees in Clark County, 0.2 percent or 152 are in full-time farming, fishing, and forestry-related occupations, compared to 0.4 percent in the state of Indiana. Only 0.4 percent, or 303, of Clark County's full-time workforce was classified in the agriculture, forestry, fishing, and hunting industry, compared to 1.2 percent statewide.

The 2002 NASS Census shows that $1,184,000 was spent on hired farm labor and there were 730 recorded employees in Clark County. Farming operations also hire contract labor and custom work in order to complete projects or raise crops. Contract labor expense totals were $367,000 and custom work totals were $781,000 in 2002. These numbers do not capture the true amount of people working on farms, because the majority does so part time and often have full-time jobs in different sectors.

Many farm owners lease the land to other farmers who have large and advanced mechanized machinery to raise crops on many different farms or raise larger herds of livestock. By factoring these realities into the equation it cannot be assumed that each of the 638 farms in Clark County each have at least one employee devoted to either full- or part-time farm work. On the other hand there are also many families living on larger farms who not only all work together on their farm, but also work at other farms when rented for further agricultural production.

A further factor to consider when discussing agricultural employment is the use of seasonal workers needed for jobs in the more labor-intensive crops such as tobacco or vegetables where large scale machinery cannot be used. For several decades, a growing number of immigrants, some illegal workers, from Mexico and South America continue to fill in the jobs that many Americans no longer want to do. These workers are often paid in cash for their services and go completely undetected in census data on employment in the agriculture industry. All of these factors mixed together make it difficult to estimate the true number of full- and part-time employees in the agriculture industry. It does, however, show that the numbers provided by the census are very misleading and lower than the true amount of employment that occurs on agricultural land. Due to these types of variables that cannot be caught on paper, or research statistics along with positive externalities of benefits provided by farmland, there are many more benefits to preserving farmland that the current economic and census studies cannot fully capture.

Additional expense information includes land, buildings, and grazing fees rented out to other farmers who may need the extra resources, and in 2002, $1,817,000 was spent for this purpose.

Equipment is also rented out to those who do not find it economically viable to purchase. Rent and lease expenses for machinery, equipment, and farm share were $156,000 in 2002. Interest expenses in 2002 were $1,181,000 and in 1997, property taxes paid by farms in 2002 totaled $1,344,000.

*Agriculture Industry Future*

The future of biofuels in Indiana has already begun. According to "Biofuels Indiana," (http://www.in.gov/isda/biofuels ), within one year the number of ethanol plants in the state has grown from one to 17. In addition, there are four new biodiesel plants. Combined, all biofuels plants are expected to produce 918 new jobs. They are also estimated to produce $29.5 million dollars to local farming economies statewide. Corn and soybean markets have already seen a jump as future market investors realize the potential for mass energy production created by biofuels. If the markets stay strong for both crops, suitable unused agricultural land lying fallow will see dramatic increases in economic productivity allowing for a healthy increase in overall agricultural industry profitability within the county.

The future of biofuels, along with diversifying crop production when and where economically feasible, will continue to increase the already important agricultural economy in Clark County. Even though the bottom line dollar may not easily compare to commercial or industrial sectors, there are many externalities that are not realized for agricultural land. There are proposed methods of land conservation programs that help to include these externalities in order to better represent the economical significance of farmland. The tools and methods in use in various localities across the nation that would best apply to Clark County are discussed further in this report.

*Agritourism*

Another revenue stream for rural economies is through the venue of agriculturally related tourism, better known as agritourism. These markets create a niche that has the potential to draw many visitors per year. Though they are not the silver bullet for redeveloping rural and small community economies, they can play a large supporting role in creating increased knowledge and support for the rural landscape.

The Indiana Office of Tourism Development has been successful in enhancing, promoting and marketing the statewide tourism industry. Their research and findings contend that the

preservation of rural lands are an important component to this industry. According to strategic marketing and research in 2005, 54.9 percent of Indiana leisure travelers enjoy scenic beauty, 40.7 percent visit lakes, rivers, and other natural features, 33.4 percent take scenic drives or driving tours, and 33.3 percent visit small or quaint towns (Indiana Office of Tourism Development, 2006). All of these findings show that the rural character of Indiana is in high demand for tourists exploring Indiana.

Both the Huber and Stumler enterprises provide excellent examples of agritourism in Clark County and illustrate the potential of the agritourism industry. The orchards have diversified crops on over 550 acres of land, raising many seasonal fruits and vegetables, flowering plants and Christmas trees. What initially began as u-pick farms have grown into a children's farm park, farmer's market, cheese shop, ice cream factory, winery, gift shops, restaurant/banquet facilities, and a distillery.

An important aspect of agritourism is marketing similar niche markets on a regional basis. These forms of partnering create ways "to combat the lack of a convention and visitors bureau existing in every county or an active organization that actively promotes tourism locally" (Ramsey & Schaumleffel, 2006). For example, Huber's Winery is a member of a regional group called the Indiana Uplands Wine Trail. The Indiana Rural Recreation Development Project also provides another way for local leaders to collaborate and develop recreation and tourism on a rural community level.

## ***IV. Non-Agricultural Economic Development in Clark County***

Economic development is often a driving force when making land use decisions. It is also important to know how different industries fare within a community when compared regionally, or on the state and national level, in order to develop successful and viable business and industry recruitment and retention strategies. What follows in this section is an analysis of Clark County's employment and a sampling of economic development strategies. What's missing in this section is farming and forestry-related jobs; even though these industries contribute to the local economy (*see Section II*) the number of enterprises in Clark County were not high enough to be included in the data obtained from the U.S. Census Bureau's County Business Patterns.

### *Overall Regional Growth*

For the six-year period from 1998–2004, Clark County's employment figures reflected a positive growth, higher than the growth in total employment for the U.S., and substantially higher than Indiana, or Louisville MSA. *(Table 3)*.

**Table 3 – Employment**

| | Clark Co Employment | US Employment | Indiana Employment | Louisville MSA Employment |
|---|---|---|---|---|
| 2004 | 42,809 | 115,074,924 | 2,586,799 | 442,905 |
| 1998 | 39,066 | 108,117,731 | 2,540,866 | 435,747 |
| Growth | 3,743 | 6,957,193 | 45,933 | 7,158 |
| % Growth | 9.6% | 6.4% | 1.8% | 1.6% |

*Source: US Census*

### *Economic Analysis*

Two measures were used to compare Clark County's employment against a larger reference region. *Shift-share* analyzes Clark County job growth relative to the job growth in some broader region of which the county is a part. *Location quotient* measures the concentration of a particular industry in relation to a larger area or region. For this study, we compared Clark County to the United States, the state of Indiana, and the Louisville MSA (for which we use Clark County and Jefferson

County, KY, the largest metro county, as a proxy). All information and data for these analyses were obtained from the U.S. Census Bureau's website (www.census.gov) and its County Business Pattern sections. For this section of the analysis, we have selected data from 1998 to 2004; the County Business Patterns program changed their industry classified system in 1998 and data before that time is not consistent with what is tabulated today; the most recent data available is 2004.

*Shift-share*

The shift-share analysis breaks county job growth into three components. The first accounts for overall regional growth. If a region (i.e. U.S., Indiana, and Louisville MSA) experiences a 5 percent growth in jobs, it's reasonable to expect that any sub-region (Clark County) would also experience a 5 percent job growth. We know that industries grow at different rates at different times. The second component looks at regional growth by industry compared to overall growth. Again, the assumption is that if an industry is growing in the region, it is likely growing in the sub-region. If we assume, for example, that *Information Services* grew by 10 percent in the region, then 5 percent of that growth can be attributed to the first component – the overall economy, and the other 5 percent to the second component – the fact that *Information Services* jobs in the region grew in number faster than the overall economy. Finally, the third component is the local factor. If, for example, *Information Services* jobs in Clark County grew by 60 percent, we would say that 5 percent of that growth came from the regional economy, 5 percent came from a ***proportional shift*** in the regional economy due to the *Information Services* industry, and 50 percent of the growth came from a ***differential shift*** in the county economy due to factors specific to Clark County.

*Proportional and Differential Shifts*

Clark County shows moderate proportional shifts and substantial positive differential shifts in three industries over the study period, regardless of reference region. These are: *(1) Information Services, (2) Finance and Insurance,* and *(3) Administrative Support.* While these industries represented only 13 percent of total employment in 2004, employment had more than doubled in each industry over the six-year study period. At the same time, the county shows small positive proportional shifts and **negative** differential shifts in both *Retail* and *Accommodation and Food Services*. While employment in these industries grew regionally, it declined significantly in Clark County.

Additional study to determine the specific source of job growth in *Information Services, Finance and Insurance,* and *Administrative Support* is warranted as these appear to be local strengths that should be leveraged for future growth. At the same time, growth strategies focused on *Retail* or *Accommodation and Food Service* appear inappropriate based on this analysis.

The recent addition of new retail and food services in the county, especially in Clarksville, may have been unwarranted. Right now, purchasing power is limited by local incomes, since there is little evidence of growing purchasing in the county by non-local buyers, so new retail just displaces existing retail spaces, resulting in no gain to the county. Past experience demonstrates this point: The practice of adding large tracts of retail development, specifically in Clarksville, has left behind a surplus of vacant and second-rate businesses.

Before additional retail development is planned, it might be prudent to conduct a retail market analysis that would include neighboring counties in Indiana and Louisville Metro to ascertain whether or not the saturation point for new retail development in Clark County has been reached. The analysis could be used to argue against new development that leads to further abandonment of previously developed retail centers and the loss of jobs, as well as a tool to revitalize town centers and downtowns.

Though employment in *Manufacturing* remained stable, the impending closure of the Colgate-Palmolive plant will impact this sector significantly. The proportional shift in *Manufacturing* using both the national and state data demonstrates that even though Clark County's manufacturing employment remained stable, the likelihood of gaining back the jobs that will be lost due to the impending closure of the Colgate-Palmolive plant is very bleak.

The fact that nationally manufacturing jobs were down by 3 million jobs in 2004 is directly related to both the decline in the demand for manufactured goods, improved technology, and increased productivity in the U.S. and abroad. This is verified in a report released by the Congressional Budget Office which stated that *"[I]n 2000, 42 percent of U.S. consumer spending was devoted to goods, down from 53 percent in 1979 and 67 percent in 1950."* Even though there is no indication that the loss in U.S. manufacturing jobs will ever be recovered, forecasters predict workers will find employment elsewhere, though at a lesser pay rate (Brauer, 2004). Thus this impending loss of jobs in *Manufacturing* may not reduce the county's job

growth, but it will most likely reduce per capita incomes.

*Location quotient*

We used location quotients to indicate the concentration of industries within Clark County when compared to a larger region. *Transportation and Warehousing* stands out as the one industry that has a significantly higher concentration in Clark County than in both the U.S. and Indiana, and higher than the concentration of these jobs when compared to the Louisville MSA. This suggests that Clark County has greater advantages in this industry which may be due to Interstate 65 (I-65) cutting through the county and the county's port on the Ohio River. Being minutes away from the Louisville International Airport and the UPS World Port adds to the marketability of this sector.

The concentration of *Information Services* and *Finance and Insurance* industries are nearly on par with the state's concentration of these jobs, however, the comparison with the Louisville MSA shows the county is importing some of these services from the local region. *Retail* jobs are more concentrated in Clark County than any of the three regions used for comparisons. This confirms the fact that a good portion of retail development is big-box designed to pull-in customers from neighboring Indiana counties and the Louisville metropolitan area. As mentioned in the previous section on shift-share, a retail market analysis might stave off the further loss of jobs in this sector and offer strategies for future development and redevelopment.

*Economic Development and Redevelopment Strategies in Clark County*

Clark County's economic development strategy is not unlike many other communities and regions in that it is driven primarily by business and industry attraction, and the expansion, retention, and creation of new jobs. There are several economic development and redevelopment commissions that operate in the county; Clarksville and Jeffersonville each have economic development and redevelopment officials and Clark County government had supported an active redevelopment commission in the early 2000s (funding has since ceased). The county, through the River Ridge Development Authority, oversees the redevelopment of the former Indiana Army Ammunition Plant, the local Chamber of Commerce represents not only Clark County but neighboring Floyd as well, and a nonprofit focuses on Jeffersonville's downtown revitalization efforts. In addition, Clark County lies within the South Central Indiana Economic

Development Group's eight-county region.

The following is a sampling of the economic activities that currently exist within the county:

***( a )*** Jeffersonville's economic development efforts focuses primarily on job creation and the areas earmarked for new industry are located in the eastern portion of the city. Anticipation of the construction of a new Interstate 265 (I-265) Ohio River bridge that would link Clark County and Jefferson County, KY has been the catalyst for investment in infrastructure and development speculation.

According to the city's economic director, there may be a few scattered brownfield sites within the city limits and his opinion is that these would be too small to fulfill his goal of bringing a substantial number of new jobs to the community. There is no city official charged with the redevelopment of blighted or abandoned retail centers. The economic development director does meet weekly with the city's planning director, which may signify a working system of communication and strategy on land use issues (B. Cahill, personal communication, Novemebr 16, 2006). However, there is limited evidence of shared strategic thinking and coordinated development planning.

***( b )*** The town of Clarksville's economic development strategy has centered on new retail development. However, each growth phase was not built on the strengths of the initial developments. Instead, new development repeatedly has simply shifted the market, leaving behind deteriorating and out-dated buildings and storefronts, and in some cases, abandoned and blighted parcels. To capitalize on its most recent phase of new retail development along Veteran's Parkway, the town set up a Tax Incremental Financing (TIF) district and is using the funds created by the new development to float bonds for redevelopment projects in older, blighted areas of town.

One such area is the Eastern Boulevard corridor, an area that is a mix of older residential neighborhoods, schools, public playground, small Mom and Pop businesses, as well as a large big box discount retail establishment. Redevelopment is in the early stages and the Clarksville Redevelopment Commission is currently seeking stakeholder input. While funds are available, their effective and efficient use depends on the quality of the planning analysis conducted. To date, no formal urban design or market analysis has been conducted.

***( c )*** The Chamber of Commerce is charged with recruitment, expansion and retention of new and existing business and

industry; sites are marketed in relation to the proximity to transportation routes, availability of utilities and unified permitting and licensing process and procedures. The Chamber has initiated a *visioning committee* to provide input and make recommendations to the county's planning authorities to streamline development procedures and policies. Currently, the committee is limited to Chamber members only, so other economic interests in the region do not have a voice. Expanding this committee to include non-members such as county residents and community stakeholders, could be an opportunity to initiate broader-based conversations and create a vision for a county-wide comprehensive economic development plan. Such a committee could evolve into a forum for consensus building on land use issues that would focus not only on commercial and industrial uses but agricultural and open-space as well.

## ***V. Cost of Farmland Conversion to Residential Development***

Both farmland (and other agricultural-based land) and residential developments generate their own sets of costs and revenues. Even though property tax revenues go up when land is converted from farmland to residential, an increase in the cost of public services and infrastructure go up as well. Good fiscal policy and practice can offset the costs of additional services. In this section, we look at the ways that two major impacts of residential development (*water and sewer costs* and *road infrastructure*) in Clark County illustrate the added costs of residential development, and then we examine previous studies on the costs of providing services based on land use which confirm that combining a strategic approach to land use and development with farmland preservation is good fiscal policy. We conclude this section with two maps; the first one shows the location and size of approved subdivisions within Clark County and the other forecasts future, unchecked residential growth within the county.

### *Water and Sewers*

Costs associated with water and sewer includes treatment plants, storage tanks, distribution and collection mains, and laterals (the connectors between individual buildings and water mains). The further the residential developments are from an urban service area, the higher the new infrastructure costs. Concentrating new residential development to the fringes of urban service areas and placing a higher emphasis on housing types other than single-family homes (condominiums, townhouses, and multi-family units) could help to reduce costs of providing new water and sewer services by an estimated 11 percent (Burchell, 2005).

Clark County's water and sewer services are both publicly and privately owned and operated and to date there are eight separate water companies, one sewer utility and a combined water and sewer company (Indiana Utility Regulatory Commission, 2006). Steering growth to utility service areas can be a challenge in Clark County because there can be an overlapping of providers within the same area. For example, a single-family homeowner may have their water provided by Company A and sewers by Company B. Furthermore, developers in the county are allowed to install private sewage treatment plants which limit the means to deter large residential development by not allowing hookups to municipalities' water and sewers. Prospective buyers in a large new residential development may consider the added expense of extending water and sewer lines to their homes as the

costs of living in a *rural* setting.

In Clark County, the minimum lot size for a single-family residence using a septic system is about one acre. Subsequently, subdivisions reliant on septic systems will require large tracts of land for a relatively small number of residents. The county costs for services immediately increase in terms of roads, schools, and public services (fire, police, and emergency services). Residents moving to these homes will be expecting no less than their urban counterparts. In addition, septic system failures are one of the highest contributors to ground water contamination, which then leads to environmental costs for the county.

*Roads*

The main revenue source for the county highway department is the tax revenue from gasoline sales tax. This represents about 99 percent of the department's budget. Revenue coming into Clark County is distributed based on a formula that factors population, vehicle registrations, and road mileage. Under Indiana law, the county does not receive any revenue from vehicle registration for trucks. Yet since most of the land use area in the county is agriculture-based, many of the residents drive trucks, and trucks inflict more damage to roads than automobiles.

Revenue from gasoline taxes alone is not enough to maintain roads; 60 percent of this money is used for salaries and benefits. Additional monies come from Cumulative Bridge fund, which is from property taxes and used for repair and replacement projects. To qualify for any federal dollars, the county must submit an application for a project, which is then rated against other applications. The higher the rating is for an application, the higher probability that the county might funding for a project. Projects that impact federal and state roadways get higher ratings; examples include the design and construction cost for right-of-ways (ROW).

For the past several decades, there has been little change in the county's road mileage (H. T. Lee, personal communication, November 16, 2006). A major factor is annexation. When a new subdivision is fully developed and roads are built to county and state specifications, the subdivision roads are incorporated into the county highway system. However, the past few decades have seen large tracts of developed subdivisions annexed into Clark County cities and towns. Once these roads are part of another jurisdiction, the revenue from the vehicle registrations and population and road mileage calculations are transferred to the governing district.

By law, all county roads must be built and maintained to meet state highway standards and without incremental increases to the county's road budget, maintaining these roads has been a challenge for the county road department. As new residential developments are built throughout the county, the existing county roads carry the impact of more drivers, even when the subdivision's roads have come under the jurisdiction of an annexing municipality. The result is an increase in traffic congestion and accidents and higher levels of maintenance. With no county plan to concentrate residential development in any particular area, subdivision developments will continue to occur haphazardly in different locations around the county and impose a negative impact on the county road system.

*Cost of Community Services*

There have been several proven methods for comparing annual revenues to annual expenses of public services for different land use categories. A Cost of Community Services (COCS) is one such method.[1] COCS was first used by the American Farmland Trust (AFT) in the mid-1980s, but over the years other researchers and study groups have used this method to gage the cost of land use in a locality. Though there has been some criticism of the COCS methodology (for instance, no residential costs such as waste disposal and police and fire protection are assigned to farmland), there is a general consensus that they are reliable.

However, COCS are a snap-shot based on a set number of values. It cannot be a tool to be used to measure the fiscal impact of a particular development and does not take in account the specific use within a land use category (for example, the ratio of service costs of a multi-family residential development as compared to a single-family dwelling).

As part of their analysis, AFT reports that "*residential land uses do not cover their costs, [and] must be subsidized by other*

[1] To conduct a COCS, current land use within the study area is divided into three categories: residential, commercial/industrial, and farmland/open space. By a series of calculations, local revenues and expenditures are allocated to these land uses, resulting in a set of ratios showing how much of the communities income and expenditures are proportioned to each land use category. The ratio of 1.0 or more indicates that for every dollar generated by the land use, more than a dollar is spent on the provision of services. Interviews and discussions with local staff and department heads supplement the process of determining how costs are divided by land use.

*community land uses"* and that *"[w]orking and other open lands may generate less revenue that residential, commercial, or industrial properties, but they require little public infrastructure and fewer services"* (Farmland Information Center, 2002). A summary of COCS that includes 64 different municipalities from 15 states, shows that the revenue-to-expenditure ratios in dollars for residential (including farm houses) land use can be anywhere between 1.02 (Becket, MA, 1995 and Farmington, MN, 1994) and 1.67 (Madison Village, OH, 1993).

In Kentucky, AFT conducted a COCS on Lexington-Fayette and Oldham County. The ratio for residential land use in Lexington-Fayette was 1.64 and in Oldham County it was 1.05. When we look at the cost ratio of services for farmland in these two communities, we find that for every $1 Lexington-Fayette received from farmland, 93 cents was spent providing services, and in Oldham County, services for farmland was 44 cents.

Though not a COCS, an analysis of the costs associated with population growth within Kentucky counties that are associated with metropolitan areas, researchers from the University of Kentucky found that the greatest impacts were on police, fire, and schools (Bollinger, 2001). The existing population bears the brunt of these cost increases in the form of higher property taxes, and for some counties with lower-than-average income levels, the burden of adequately providing these services is passed along to the local governments.

Based on the findings of AFT and other research groups that have conducted analyses on land use patterns and its effect on fiscal budgets, we can safely assume a similar study on Clark County's land use and revenues and expenditures will more than likely result in the same findings – ***(a) the costs of unchecked development falls upon existing county residents*** and ***(b) even though the conversion of farmland and open spaces to residential use may increase the county's tax base, the costs of provision of services outweighs the increased property tax revenue.***

*Residential Subdivision Development*

During the seven-year time span from January 1, 2000 to January 1, 2007, 144 new single-family residential subdivision developments were approved and recorded. Forty-five of these subdivisions are located within the boundaries of five incorporated municipalities, each with separate planning commissions. The jurisdictions include Jeffersonville, Clarksville, Sellersburg, Charlestown, and Utica. The remaining

95 subdivisions were approved by the Clark County Planning Commission. These subdivisions represent a total of 1,900 new lots in the city and towns and 5,414 new lots in the county; this equals 7,314 new single-familty reidential lots within the entire county. These approved new subdivisions totaled 845 acres in the incorporated boundaries and 3,795 acres scattered throughout the county, totalling 4,640 acres of approved subdivision developments from 2000 to 2006. The average lot size in the incorporated city was 0.44 acres. In the county, the average lot consumed 0.70 acres. Combined, the average lot size for all subdivision lots in Clark County averaged 0.63 acres.

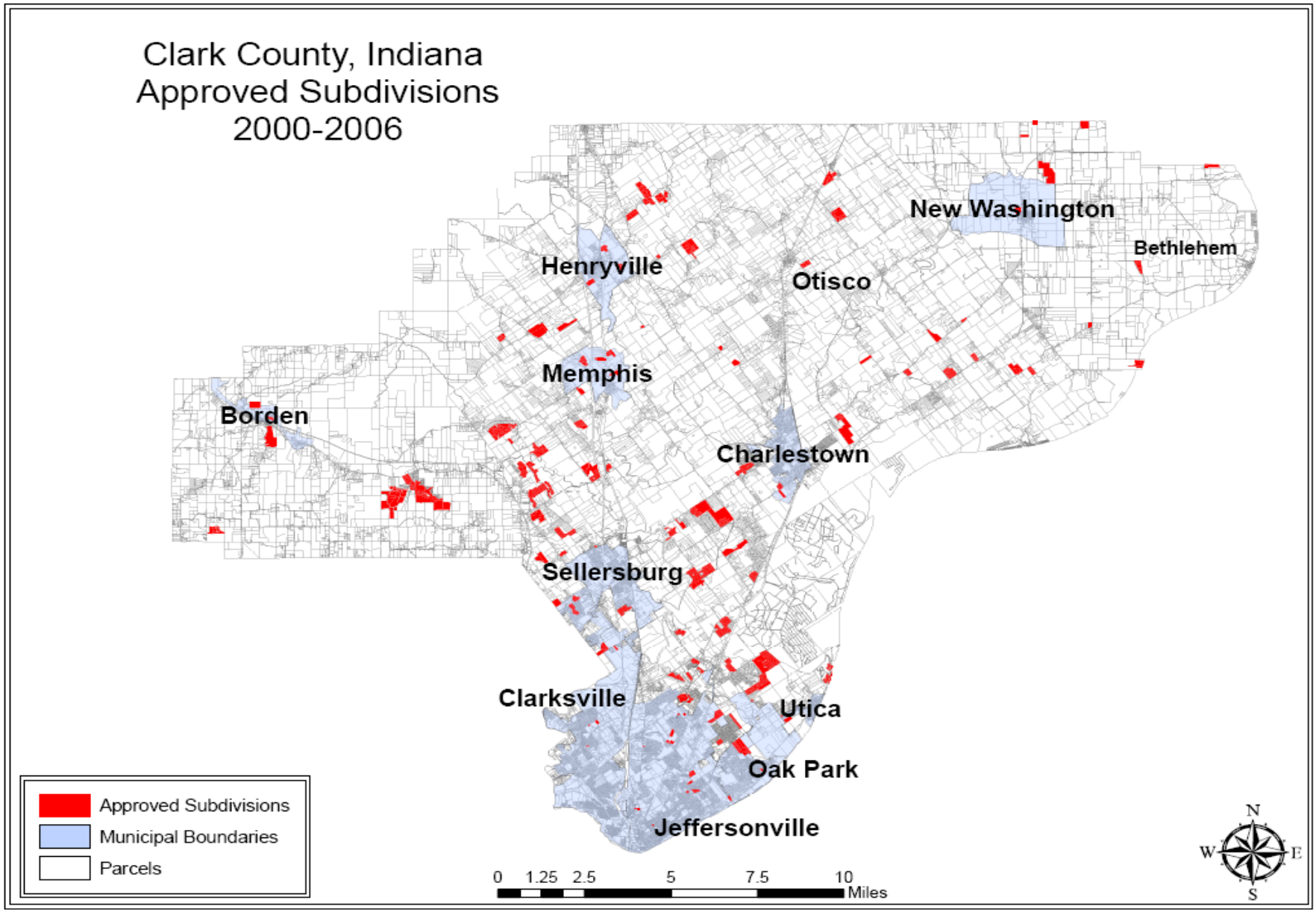
Map 1 illustrates the size and location of these approved subdivisions. The subdivision sites are scattered throughout the county and are not clustered in areas close to urban services. It is important to note that a significant number are located in the eastern portion of the county; there is little doubt that the costs for community services for households in these subdivision would outweigh residential subdivisions located near urban areas. Subdivisions are also creeping northward along the I-65 corridor, illustrating the convenience of housing near major transportation routes. West of I-65, a large concentration of housing has occurred along the Perry Crossing and Bennettsville Road corridors. It is likely that the newer subdivisions are a carryover from the planned communty built around a privately maintained 18-hole golf course, increasing the highway maintenance costs for the county roads in this area.

*Unplanned and Unchecked Residential Growth*

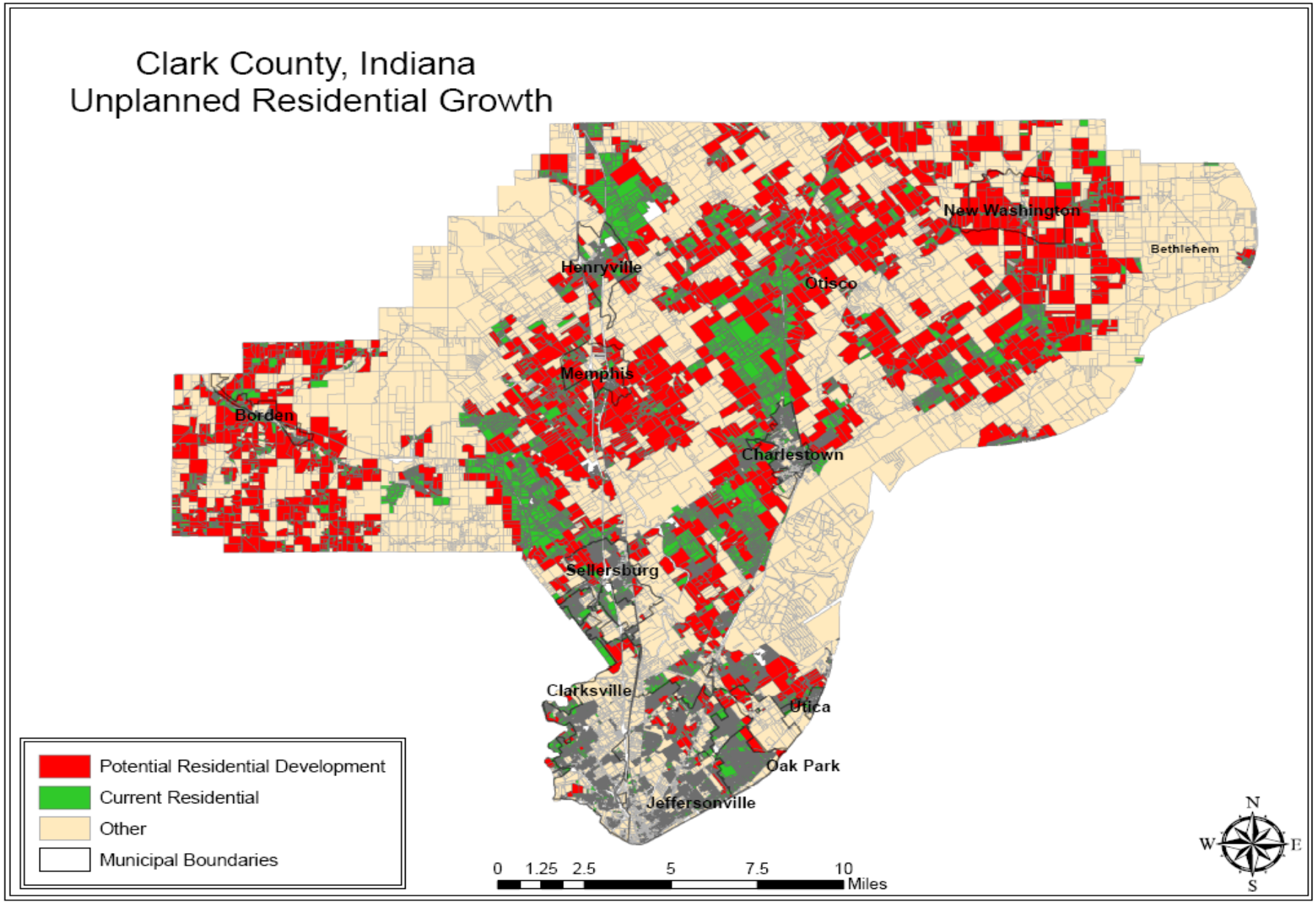
If Clark County continues on the existing pattern of converting farmland and open space to residential developments, the county stands to lose a substantial amount of its prime agricultural land. To project the county's unplanned residential growth, a map was created by identifying current residential parcels and adding agriculture or forest parcels that intersected or touched the boundary of these residential parcels. As Map 2 illustrates, given the current trends, the county will lose much of its agricultural base in the areas located the furthest from urban services, such as police and emergency response crews. The public costs incurred from converting these farmlands will far outweigh the revenue collected from land classified as residential.

Another concentration of potential residential growth is in the Henryville area. With close proximity to the interstate and prospective economic development growth, a master plan for this area with a focus on infrastructure and amenities such as a thriving town center might help in steering future development.

**Map 1: Clark County Subdivisions, Approved and Platted 2000-2006**



**Map 2: Unplanned and Unchecked Residential Growth**



## ***VI. Farmland Preservation Techniques, Infill Development, and Urban Boundaries***

There are several policies local governments can adopt in order to better achieve the preservation of high quality farmland while still allowing for development to occur. These policies would successfully help Clark County maintain its rural character in certain areas while allowing for development closer to already developed infrastructure, thus saving tax dollars on infrastructure expansion. Below are some policies and examples that are effective tools for farmland preservation.

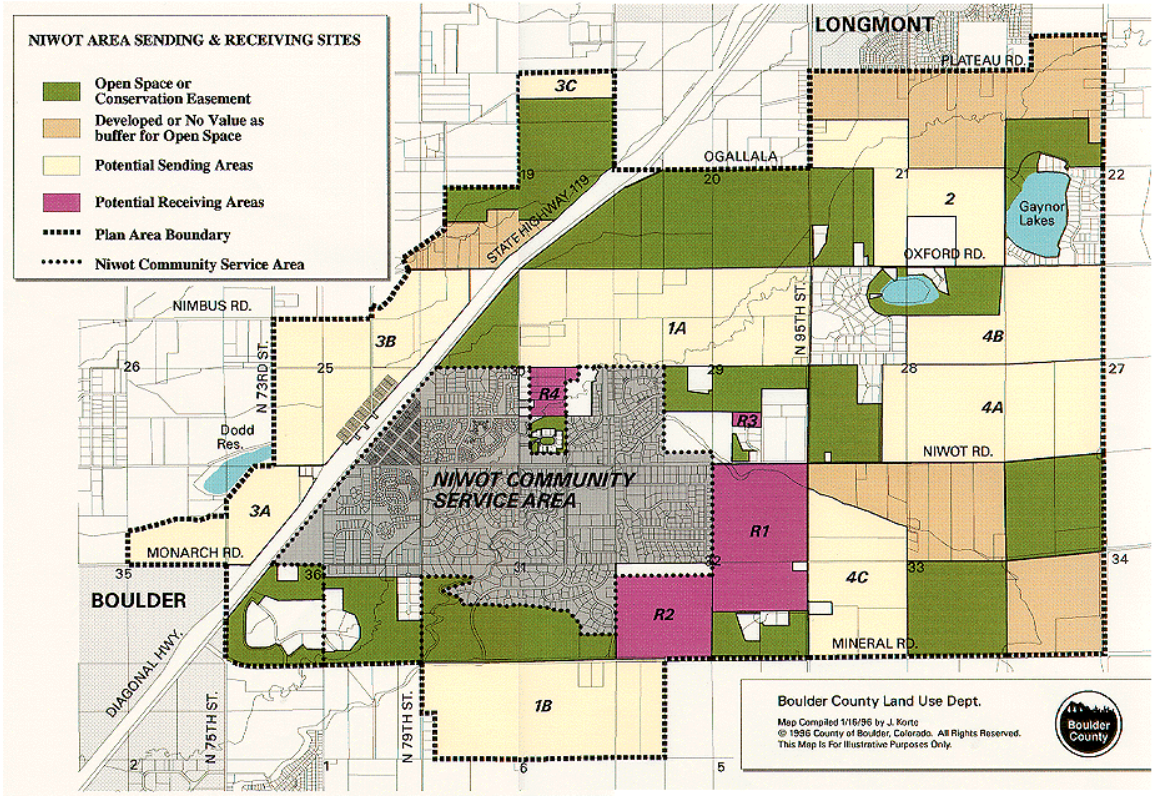
*Transfer of Development Rights (TDR) Program*

The first Transfer of Development Rights (TDR) Program began in 1967 in Boulder County, Colorado (USDA, 2005). This tool allows the transfer of potential development from areas that a community wants to preserve to areas that are more suitable for development. All properties have a variety of separate rights like the right to farm or mine or the right to develop or subdivide. So it is this "development right" which is bought by developers who can use them to increase densities on pre-approved sites that have been delegated for a city's future growth. These development rights are created and then assigned for a specified number of acres. For example, one TDR would equal 10 preserved acres. This method allows a county to "steer" the growth away from classified prime farmland and toward more marginal agricultural land. The TDR program has several advantages since it is a voluntary program and it is market driven with private funding from developers. Public taxes do not become an issue in the discussion of land acquisition through a TDR program. Another advantage is the designated sending zone. This can allow for a contiguous arrangement of farmland that could potentially allow for the local farming economy to sustain itself. At the same time it could create a barrier protecting the best agricultural land from urban development and diverting the city expansion to more marginal farmland.

Figure 6 is of the NIWOT community in Boulder County, Colorado. Here is an example of very localized sending and receiving zones. If the purple shaded potential receiving zones are confirmed, then the conservation easements will continue to surround the community. This method is not restricted to agricultural land and may use open space while creating higher densities of development on the receiving sites. Reasons and tools for land preservation have and will continue to cross the boundaries between the preservation movements.

TDR programs cannot easily expand outside of their local political boundaries and there have not been any attempts for a regional program as of yet (Halich, 1999), and the use of the TDR program has not become widespread throughout America. According to the AFT's Farmland Information Center, *[s]ince 1980, Montgomery County, Maryland, has protected 40,583 acres using TDR, or 60 percent of the national total which is 67,707 acres* (2005). Despite the fact that this program has not been successful nationwide, it is apparent when looking at Montgomery County, Maryland, that if properly designed and managed, the TDR program can have effective results for the sustainable growth of the city within surrounding agricultural land.

**Figure 6: NIWOT Area Sending & Receiving Sites**




*Source: Boulder County Land Use Dept., 1996*

*Purchase of Development Rights (PDR) Program*

Purchase of Development Rights (PDR) Programs, also known as Purchase of Agricultural Conservation Easements (PACE) Programs, first began in 1974, in Suffolk County, New York. Increasing concern about regional food security issues and the loss of open space led the states of Maryland, Massachusetts, Connecticut, and New Hampshire, along with King County, Washington, to enact their own PACE programs by the end of the 1970s (USDA, 2005). PDR programs can be either statewide or local. Much like the TDR program, the same development rights are purchased from the individual property owners. When these rights are purchased, the current owner and future owners still have control over the land, but they have made a legal agreement to never develop their land for residential or any other non-agricultural use (Halich, 1999). No matter how close a nearby city may develop, this protected land will not become a part of it.

Unlike the TDR programs that use urban developer funding through private markets, the PDR programs throughout the nation are operated by state and local governments and use public funding for support. There are many sources of funding that may be acquired for PDR programs. Most often, general bonds that lead to increased property taxes are used to fund most programs. Other programs have used real estate and agriculture transfer taxes and sales tax increases (AFT, 2005). Another major source of funding comes from the federal Farm and Ranch Lands Protection Program. This program was established in the 1996 Farm Bill and since has provided matching funds for state, local, and tribal PDR programs (AFT, 2005). For some PDR programs, a more surprising source of funding has come from the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). This act provides money to acquire scenic views along the nation's highway system (AFT, 2005). Most often, the scenic views along highways are working farms. The states of Delaware, Maryland, Massachusetts, Michigan, and Vermont have been the first to incorporate this funding into their state or local PDR programs (AFT, 2005). The variety of funding sources available for this program are diverse and finding creative ways to use as many as possible will lead to the most successful programs.

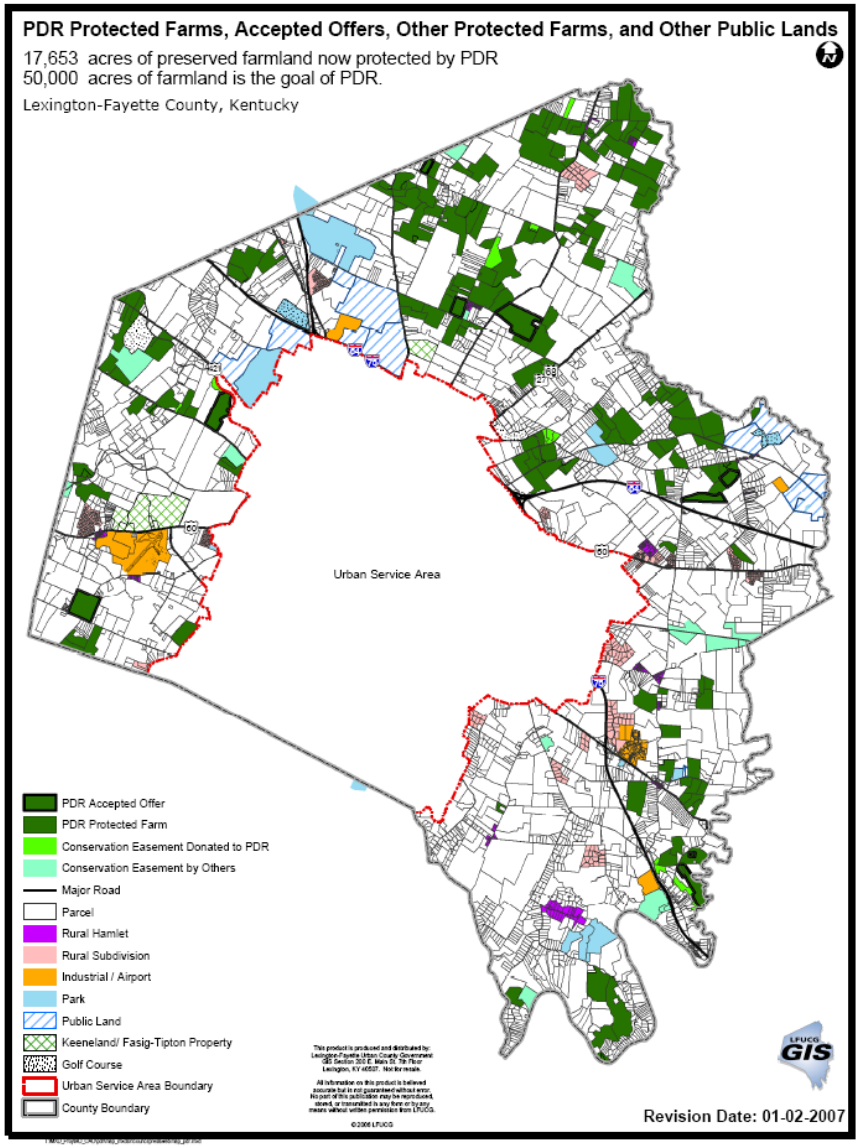
The PDR program creates a more substantial economic alternative for farmers to stay in production and is therefore a stronger approach to farmland preservation. Farmers are paid by subtracting the value of what the land is worth if sold for development from the fair agricultural value or the worth were it sold as agricultural land.

There are also many examples nationwide where landowners believe so strongly in the goals of farmland preservation that they skip the appraisal process and donate their development rights to the PDR program.

Overall, the PDR program has seen more implementation than the TDR program. There are 27 statewide programs and at least 50 local programs operating in 16 states. Nationally, the statewide programs have protected 1,361,591 acres and the local programs have independently protected 241,181 acres (AFT, 2005). However, the funding is not often going to the farmland that needs immediate preservation.

The local PDR programs work within a smaller geography and have a more dense and focused area of preserved agricultural land. Figure 7 shows the PDR protected farms in Fayette County, Kentucky. The Lexington-Fayette Urban County Government (LFUCG) has protected 15,299.543 acres of farmland since the program was passed in 2000 (LFUCG, 2005). If prime agricultural land continues to be preserved near this rate, then it is possible to visualize a large protected buffer being formed north and east of Lexington. The state of Indiana has recently seen one local PDR program approved in Harrison County, however, the local government has yet to provide any funding, therefore keeping any matching federal funding from coming into the program.

**Figure 7: PDR Protected Farms, Accepted Offers, Other Protected Farms, and Other Public Lands**




*Source: Lexington-Fayette Urban County Government, 2007*

*Land Trusts and Nongovernmental Organizations*

There is an exploding grassroots movement of private nonprofit organizations creating programs for all types of land preservation, including farmland. Land Trusts were originally founded in the late nineteenth century New England territory. They have increased rapidly in the last 20 years. Land Trusts have provided one of the most common ways to permanently preserve agricultural land by accepting donated conservation easements that restrict development rights. These trusts also purchase conservation easements or directly buy properties at an agreed upon discounted rate from landowners. The 2002 Farm Bill allowed for nongovernmental organizations such as these trusts to receive the same matching federal funding given to the state and local PDR programs (United States Department of Agriculture, 2005). Land Trusts are also forming partnerships with the federal, state, and local programs. The additional funding and increased public-private partnerships are creating many new possibilities and opportunities for the farmland preservation movement in the United States.

There are currently over 1,500 nonprofit land trusts that have protected 9.3 million acres in America (Land Trust Alliance, 2005). The Land Trust Alliance is the umbrella group for all of the trusts nationwide, forming a common means of communication and sense of purpose between the many separate organizations. Clark County has three local land trusts pursuing land preservation.

The Clarks Valley Land Trust began in 1999 and evolved from Clark County's Soil and Water Conservation District's Land Use and Community Development Committee. It operates as a project committee within the Historic Hoosier Hills Resource Conservation and Development Area. The land trust's name has recently changed to the George Rogers Clark Land Trust. The main function of the land trust is accepting conservation easements on land; however members also provide educational resources to people of all ages. The trust targets preservation of properties in the Southeast region of Indiana including Clark County.

The other two land trusts are the Oak Heritage Conservancy and Kentucky River Fields. The Oak Heritage Conservancy protects natural areas and open space in Southern Indiana and Kentucky River Fields, which operates in three Indiana counties and three Kentucky counties adjacent to the Ohio River. River Field's objectives includes securing conservation easements along the river's watershed including working farmland and natural areas. To date neither of these trusts has actually acquired land in Clark County, but

both could potentially help form partnerships in the future in order to create a successful public/private farmland preservation program along with the local government.

*Urban Growth and Urban Service Boundaries*

An effective approach to guiding development is through the implementation of urban service boundaries (USB) or urban growth boundaries (UGB). With a USB, new development is restricted to areas within a municipality's service area; the most common method is limiting water and sewer hook-ups. UGBs direct higher density development within designated areas around the urban core and only low-impact development is allowed in the rural community in an effort to protect farmland and preserve the rural character of the undeveloped lands. Concentrating new residential and commercial growth can lessen the cost of increased county and school services, resulting in fewer miles of county roads to bear the increase in traffic, shorter distances for police, fire, and emergency responses, shorter school bus routes, etc. The USB or UGB is written and defined as part of a community's comprehensive plan and as such, is up for revision every five to 10 years.

For Clark County, there are two roadblocks to establishing either an effective USB or UGB:

- The ability to limit utility services in non-developed and rural areas; and
- The absence of a planning commission that oversees development in the entire county. For the purpose of this report, we identify this as a *town and country* commission.

These roadblocks can be overcome but require a commitment from the municipalities and communities within Clark County, as well as county-wide elected officials, and local business and economic development leaders.

Devising a working plan for concentrating new and infill development within the service areas of local utilities could prove challenging for Clark County. Clark County has eight different water utility services, one sewer utility service, and one combined water and sewer utility service listed with the Indiana Utility Regulatory Commission. Electric service for the county is through either Duke Energy Indiana or Clark County Rural Electric Membership Cooperative (REMC). Wastewater treatment facilities are either municipally or privately owned. An attempt to steer development from one area to another through regulating the provision of water and sewer may prove futile if these areas are serviced by different

providers.

A town and country planning commission could be a useful tool for Clark County provided each of the six planning jurisdictions within the county had representation and cooperated on land-use matters. Historically, the county and incorporated areas have operated separately on land-use policies. Within the last 10 years, the towns of Charlestown, Clarksville, and Sellersburg have all expanded through annexation, with Clarksville and Sellersburg having faced legal battles grappling over land that separated the two towns. Each community has its own vision for growth (encompassing both residential and commercial/industrial) which at times creates a perception of competitiveness for some of the same services. One community's vision for future growth could actually negatively impact other communities within the county as well as county services. Two scenarios illustrate this point.

Example 1 involves residential development. A portion of the county road income is calculated by the total mileage of county roads. As new county residential developments are absorbed into a city or town via annexation, the roads are no longer maintained by the county road crews. However, the residents of these developments still traverse county roads during the course of daily commutes. The increased traffic impacts the wear and tear on these roads, and there is no additional revenue for maintenance.

Example 2 centers on retail and commercial development. A municipality focuses on new retail development as a chief component of its economic growth. The upside is the development of several big box retail stores and an assortment of chain restaurants and a sizable increase in property values on land that had been vacant and undeveloped. The downside is a shift in the consumer spending market resulting in the closing of former retail establishments leaving vacant storefronts and empty parking lots, not only in that particular municipality, but elsewhere in the county.

A town and country planning commission could function as an advisory board and oversee long-range planning for the entire county. The outcome could be planning for residential and commercial/industrial growth in areas well-served by utilities, roads and highways, and availability of land suitable for development, with an emphasis on redevelopment and infill development, as well as providing a forum for open dialogue among county, and city and town officials.

*Brownfields*

Defined as "*abandoned, idled or underutilized industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived contamination* (Kaiser, 1998), brownfields can either be viewed as an impediment to economic development or as an opportunity to revitalize and re-energize a neighborhood or community. Economic benefits from the redevelopment of brownfield sites include an increase in tax revenue associated with property values and employment, elimination of potential health hazards associated with contaminated properties, and revitalization of surrounding properties and neighborhoods that were pulled down by the existence of blighted and abandoned properties. Even the aesthetic impact of a brownfield redevelopment can stimulate new growth, as the clean-up and re-use of the abandoned property reinforces the perception of a healthy, thriving community. Existing infrastructure is also an asset as it helps to lower development costs. It thus behooves the county and its municipalities to promote redevelopment of the sites, since they may be very efficient additions to economic development efforts.

Five sites in Clark County are included in the Indiana Brownfields Program list of brownfields located throughout the state. Several of the Clark County brownfield sites identified by the state have been cleaned and redeveloped. Others are indicated as being under review. The state's brownfield office lists three additional sites as VRP (Volunteer Remediation Program). Two of these were former gas industrial sites and even after clean-up, are still too contaminated for reuse. Though the Colgate plant in Clarksville is slated to close within the next few years, it has yet to be included with the state's brownfield inventory.

Other smaller sites can be looked upon as potential brownfield sites, though no formal assessment may have been conducted on the property. A perfect example would be properties containing USTs (*underground storage tanks*). Abandoned gas stations are typical examples of ESTs, however these sites can also include auto repair and body shops, small industrial sites, and commercial and residential properties (Northeast-Midwest Institute, 2002).

Since the former Indiana Army Ammunition Plant is a federally-held property, it is not included on the state's brownfield list. However, it is a contaminated site and as the property continues to be remediated by the military, the released land will be redeveloped by the River Ridge Development Authority.

Resources are available to Clark County and its communities in regard to brownfield redevelopment. Working closely with the U.S. Environmental Protection Agency, the Indiana Department of Environmental Management (through its Indiana Brownfields Program) provides educational, financial, technical, and legal assistance for the clean-up and reuse of brownfield sites.

*Greyfields*

Though not technically brownfields, unless they have specific pollution problems, abandoned or run-down retail and commercial sites have similar negative impacts on surrounding properties and neighborhoods. These sites, often referred to as *greyfields*, tend to pull-down neighboring property values and contribute little to the local economy in terms of employment and taxes. However, greyfields do present possibilities for infill development that would be an alternative to sprawling development in agricultural and other undeveloped areas. The advantages for redeveloping these sites include proximity to major roads and highways, existing infrastructure, nearby residential developments, sizeable lots with potential for mixed-use and high density developments. In addition, greyfields are unlikely to have contamination issues given their former use (Chilton, 2004). The positive outcome of the redevelopment would be a rebirth to a declining property and an increase in its assessed value and property tax. Existing greyfield sites in Clark County can be found along Eastern Boulevard in Clarksville and Tenth Street (Highway 62) in Jeffersonville.

## ***VII. Land Use***

For the purpose of this study, we are analyzing the patterns of how land is used in Clark County as opposed to the *land use* or zoning classifications. As a visual aide in determining the county's land use and development patterns, we created maps using the most recent aerial files and parcel information. Since the maps are based on a coding system used to assess property values, properties may be coded differently than its percepted use. A good example would be several parcels in Clarksville that are located in close proximity to the Falls of the Ohio; assessment data record these parcels as agricultural use, even though it's been many years since the ground has been cultivated.

### *Methodology*

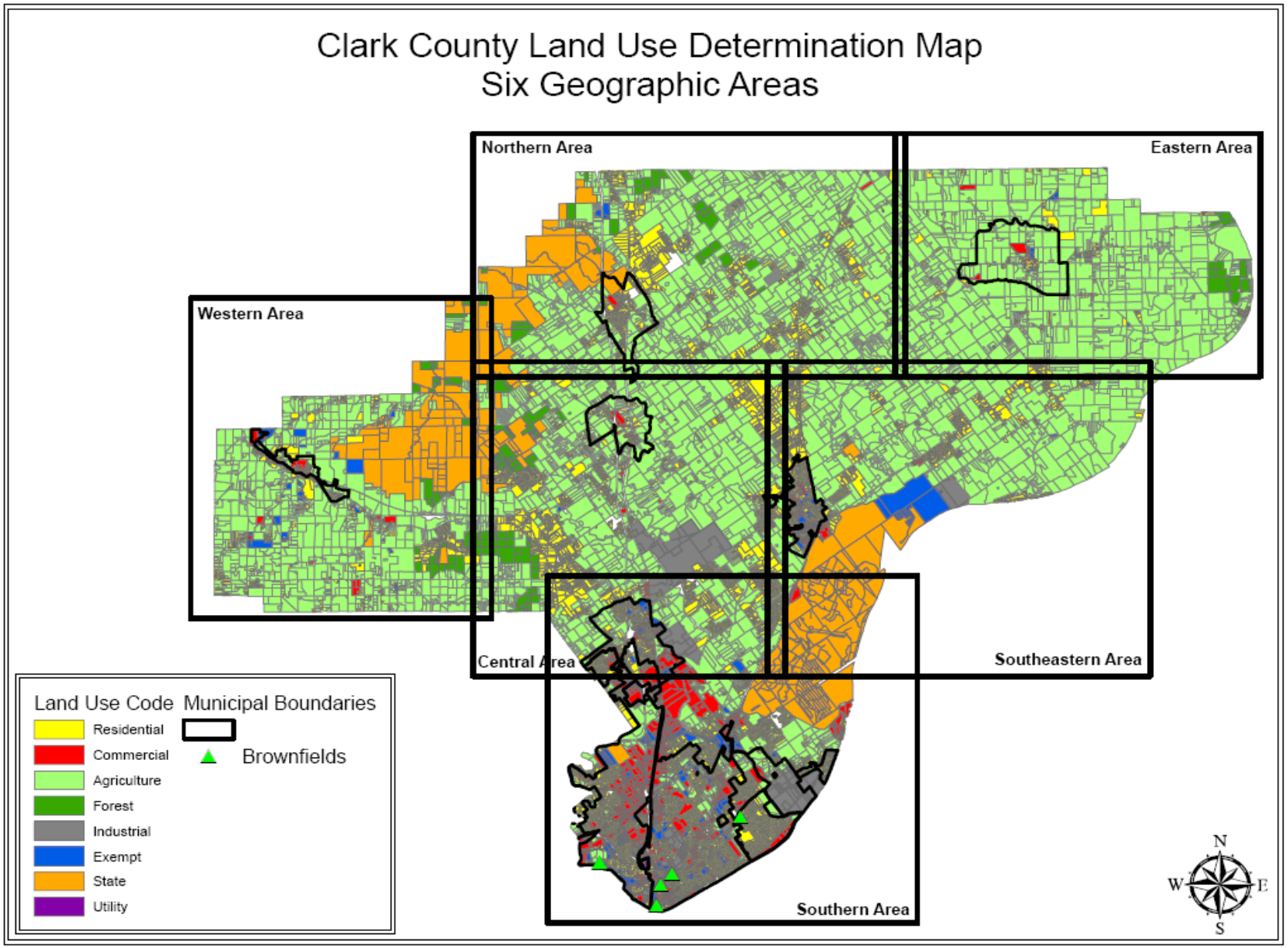
The parcel shape file was generated from a "Clark County Parcel version 3" shape file. The new shape file was named "parcels with land use codes" and consisted of 52,673 individual parcels. Each parcel was attributed a key number which is a unique identifier field for the parcel. The attributes did not include land use codes for these parcels. To identify land uses, a Clark County shape file that contained a parcel key number along with land use codes was joined to the original shape file by utilizing the common field of "key number." Once these tables were joined, the parcel shape file identified over 169 unique land use categories. For the purpose of this analysis, the 169 land use categories were generalized to eight categories which included: agriculture, residential, commercial, industrial, state, forest, exempt, and utility.

Of all the parcels, 22,000 or roughly 40 percent of all parcels did not have land use codes because the particular key numbers in one parcel shape file did not correspond to key numbers with other parcel shape file. The parcels that did not have a corresponding generalized class, or land use code had to be manually coded. This was visually done with the aid of aerial photo interpretation. An aerial SID image by the name of "Clark" was overlaid on top of the parcel shape file to determine which of the eight categories the parcel should be classified. (*The majority of the parcels that did not have a categorization were either new subdivisions or within agricultural areas.*)

Once all the parcels were coded, maps were generated using the parcel shape file along with the aerial SID image of the county as the background. The parcel shape file was set to 50 percent transparency allowing the aerial image to be seen. To provide greater detail on

land use, Clark County was divided into six geographic areas: *Southern*, *Southeastern*, *Eastern*, *Central*, *Northern*, and *Western*. (*Map 3*). What follows next is an analysis of the land use within each of these geographic areas.

**Map 3: Clark County Land Use Determination Map**



*Southern Area*

Development in Clark County is highly concentrated in the southern tip of the county – bounded on the north by Sellersburg and extending south to Clarksville and Jeffersonville. Over half of the county's total population lives in these three communities. The Indiana Army Ammunition Plant (INAAP) lies within this area. This large unit, which once totaled over 10,000 acres, is the most dominant single parcel in the county. River Ridge Redevelopment Authority owns and manages over 3,000 acres of this former military facility, which is zoned for industrial use, and is currently developing it as a business park. The Army is responsible for all remediation and clean-up; however, the development authority is prohibited from using any of the property for residential purposes due to any unknown explosive materials on the site.

Though only a fraction of this former military site has been remediated and turned over to the county for commercial and industrial development, the impacts on land use when it realizes its full potential should be weighed heavily on future land uses in the immediate area. The River Ridge Business Park is destined for development based on its proximity to the planned bridge connecting eastern Jefferson County and Clark County and the fact that Louisville Metro has exhausted its supply of large tracts of land for industrial development. Undoubtably, pressure will be placed to convert all undeveloped land in this area of the county for residential and retail development.

The urban core of Jeffersonville has the highest density of parcels, suggesting that these are likely to be some of the earliest platted lots in the city. Jeffersonville has a strong mix of land uses, with commercial/industrial along the banks of the Ohio River. Large tracts of agricultural based land is located on the northeastern fringe of the city, bounded on the north by the former INAAP, Utica on the east, industrial property on the south and SR 62 on the west. As noted previously, it is likely that the extension of I-265 to the planned eastern bridge in Jefferson County, KY, will have a major impact on this area. With easy access to the interstate and the bridge, pressure for more development in this area is to be anticipated.

There are pockets of undeveloped land in the northeastern bounds of the Jeffersonville city limits and north and west of Utica. Further study for infill development projects in this area as an alternative for development further away from the urban core is warranted.

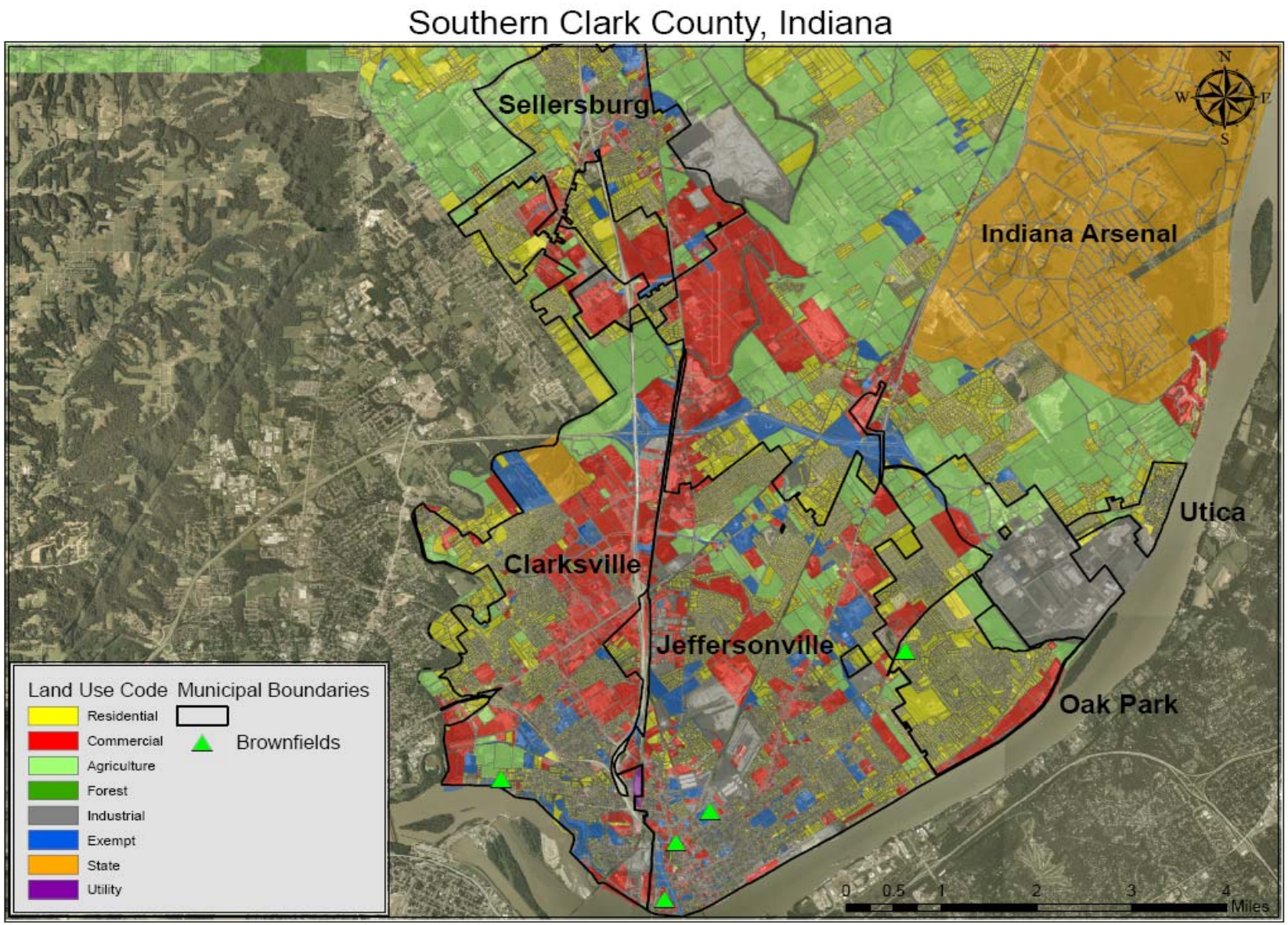
Nearly all of the parcels that are adjacent to I-65 have commercial uses. The portion of Clarksville that is contained south of I-265 and west of I-65 is nearly built out. A few remaining parcels are undeveloped. This area appears to encompass at least half of this portion of the town, suggesting a strong economic dependence on commercial and retail goods. Based on the size and number of parcels with residential use, it can be assumed that the town cannot sustain the size and scope of commercial use on its population alone and is dependent on attracting consumers from the whole of Clark County and surrounding counties.

There is also developable land within Jeffersonville that runs east along I-65 between the Lewis and Clark Highway and Veteran's Boulevard exits that is earmarked for retail /commercial development. In addition, a mega-church located in eastern Jefferson County, KY has announced plans to establish a church in this area to serve its southern Indiana congregation.

Agricultural tracts near the Falls of the Ohio may remain as such in perpetuity due to flooding conditions and soil conditions. Over the past few decades, the town has annexed the corridor that is situated north of I-265, between I-65 and the Floyd County line, until it meets the Sellersburg town limits. Several large tracts that are virtually boxed in remain undeveloped – this situation may offer opportunities for approaches for innovative residential development.

Subdivisions are cropping up in the agriculturally-based area that lies between Sellersburg and SR 62. It appears that these subdivisions are locating adjacent to the large quarries and cement factories. The ramifications of new residential development in close proximity to these sites should be considered. First, these industries have been in place for well over a century and encroaching residential development may infringe on their economic activity; and second, blasting and dust may have detrimental effects to both the health and quality of life of residents, as well as to the homes and other structures in these developments. Permitting residential developments near these quarries creates the potential for future litigation, which is likely to be costly to both the county and the cement industries.

**Map 4: Southern Area of Clark County**



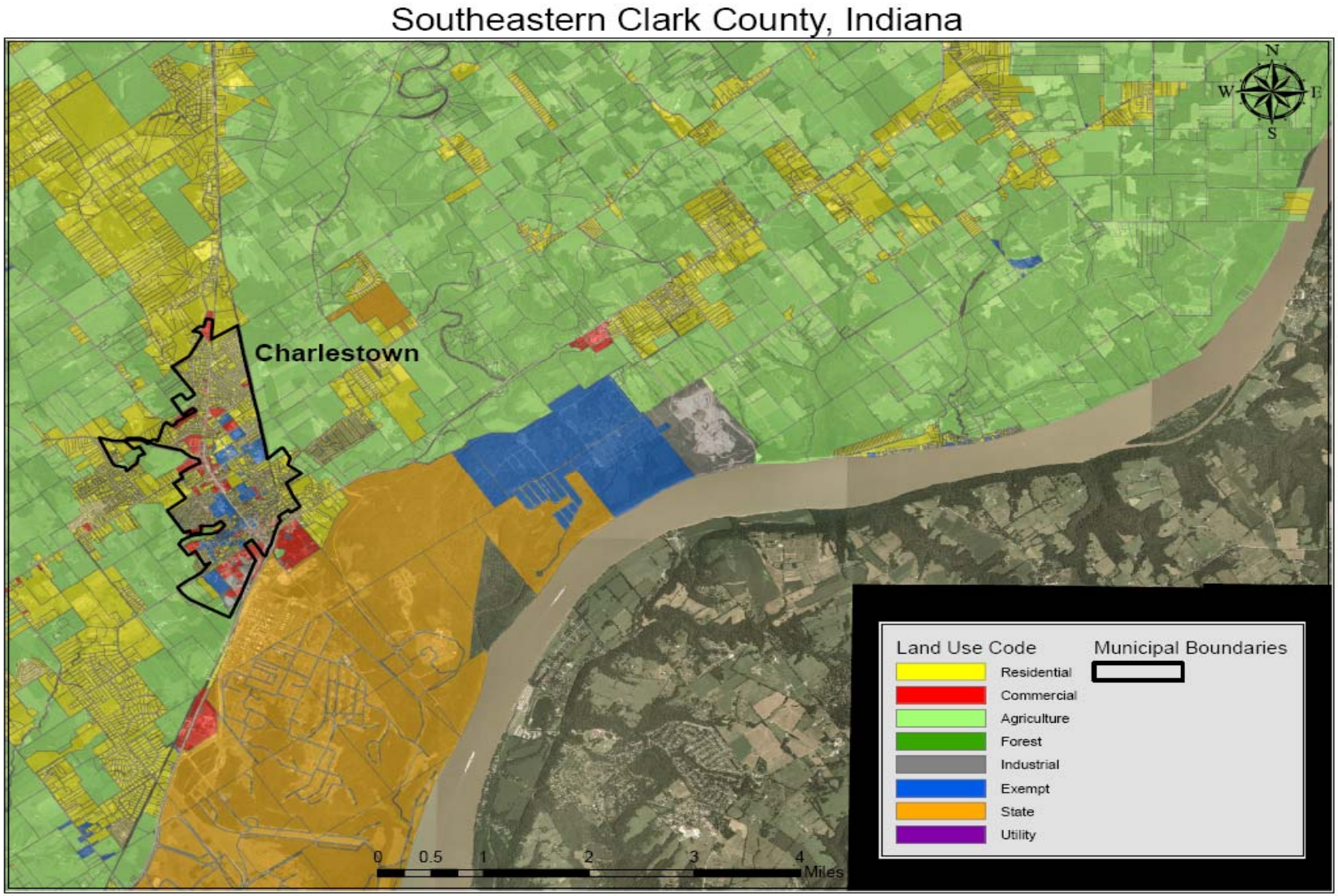
*Southeastern Area*

Though agriculturally-based land is predominant in southeastern Clark County, it appears that residential development has taken a foothold, especially within the SR 3 and SR 62 corridors. One concentration of subdivisions is located about midway from the I-265/SR 62 interchange and Charlestown (*see section on Southern Clark County*) and another grouping begins about 3.5 miles east of Charlestown. The largest residential growth in this geographic area has occurred on SR 3; residential properties are on the entire 6-mile stretch that links Charlestown to Otisco. Other residential developments are scattered randomly, apparently platted with each lot having frontage on a county road. A traffic study on SR 3 and SR 62 could reveal the impacts of this residential growth with regard to traffic accidents, speed, and capacity for traffic volume.

With Charlestown being one of the oldest settlements in the county, it would be interesting to learn why the residential growth was not concentric beyond the town limits. Identifying barriers that may have thwarted this growth pattern can lead to methods and procedures for planning future development.

The former INAAP property and facilites lie to the west of Charlestown, along SR 62 and reaching south to Jeffersonville and west to the Ohio River. A sizeable portion of this property is now the Charlestown State Park; encompassing 5,100 acres, it is now the third largest state-owned and operated park in Indiana. Other tracts, once remediated by the U.S. Army, belong to the River Ridge Development Authority and are marketed as the River Ridge Commerce Center. As this business park acquires more land, and continues to develop and attract more industry to the area, coupled with the advent of a new bridge linking Clark and Jefferson (KY) counties, it would appear that the Charlestown area would become even more attractive for new residential development, in part because both SR 3 and SR 62 provide easy access to River Ridge Commerce Center and I-265.

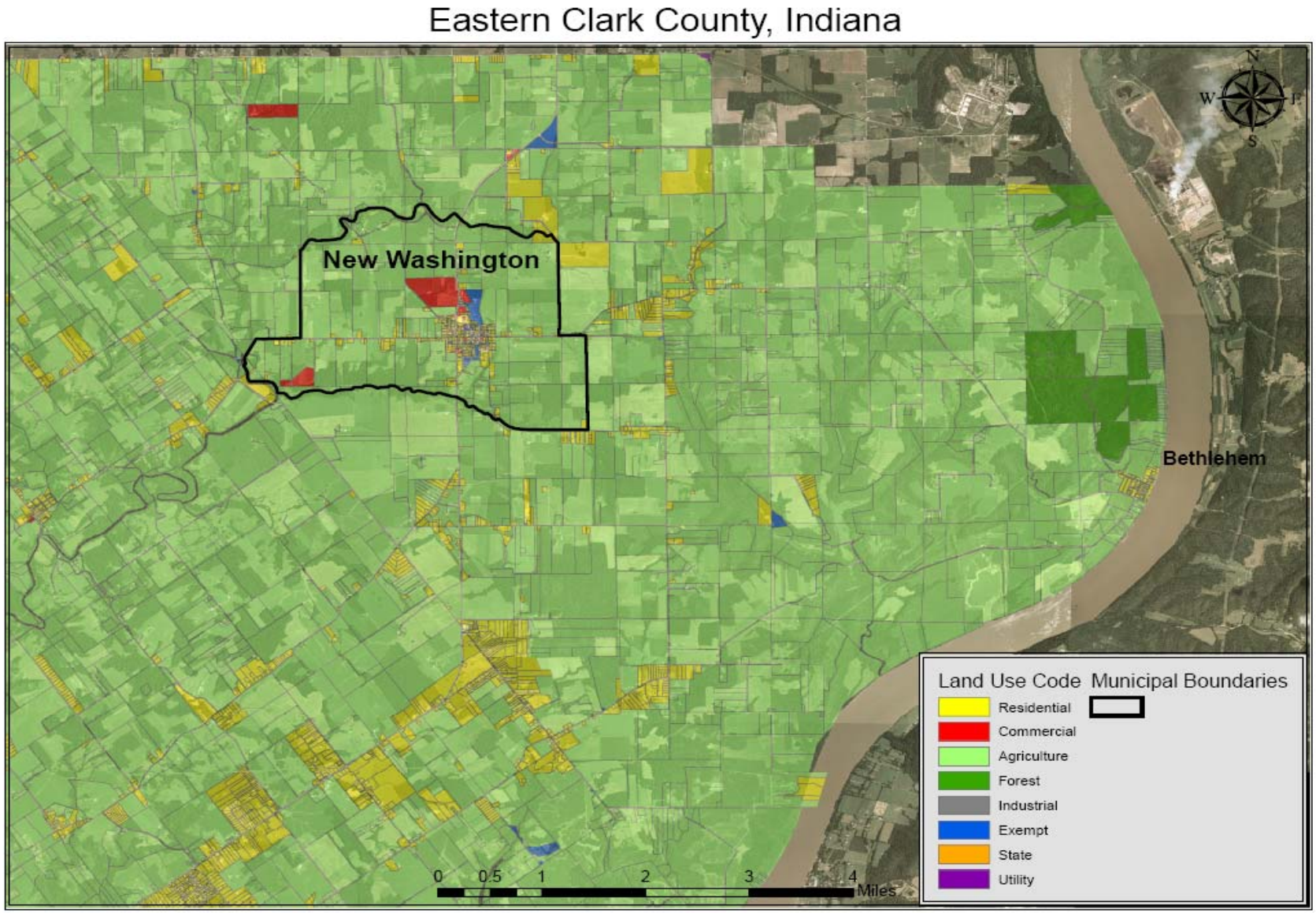
**Map 5: Southeastern Area of Clark County**



*Eastern Area*

Other than the communities of New Washington and Bethlehem, most of the eastern portion of Clark County is farmland. There are a few tracts of land that have been subdivided into lots with frontage on county roads and two parcels have been coded as residential use, suggesting these might be unimproved subdivisions. It may not be economically feasible for this portion of the county to support development. SR 62 serves as the main transportation route through this area, though much of area is serviced by county roads. However, with the banks and cliffs of the Ohio River stretching along this area, and much of the land untouched other than for agricultural purposes, eastern Clark County's assets are its scenic views and byways.

**Map 6: Eastern Area of Clark County**



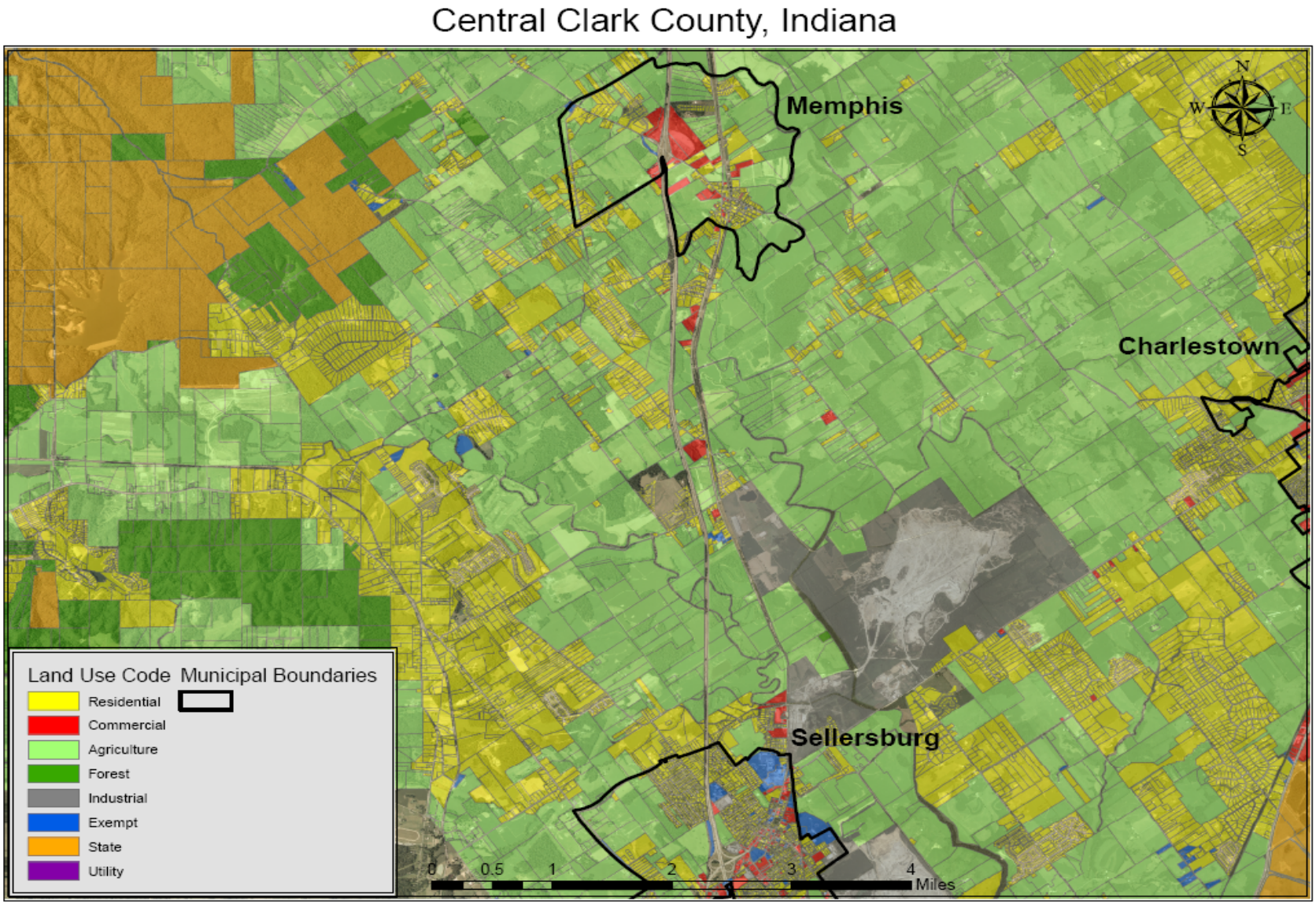
*Central and Northern areas*

Clark County is bisected north to south by a transportation route that includes two thoroughfares (I-65 and US Hwy 31) and a railroad line. A series of towns sprang up at intervals along this route around stage stops and railway stations, providing commerce and transportation for local citizens. Today, these small communities are interchanges along the interstate. Commercial and industrial uses are centered near the Memphis and Henryville interchanges and in the stretch between Sellersburg and Memphis, a few scattered commercial and industrial sites are located in parcels that lie between I-65 and US Hwy 31. The Clark County Redevelopment Commission recommended that industrial and commercial sites be designated at the Henryville and Memphis interchanges as Tax Incremental Finance (TIF) Districts (Clark County Redevelopment Commission, 2000). A business park at the Memphis interchange is currently being marketed for development.

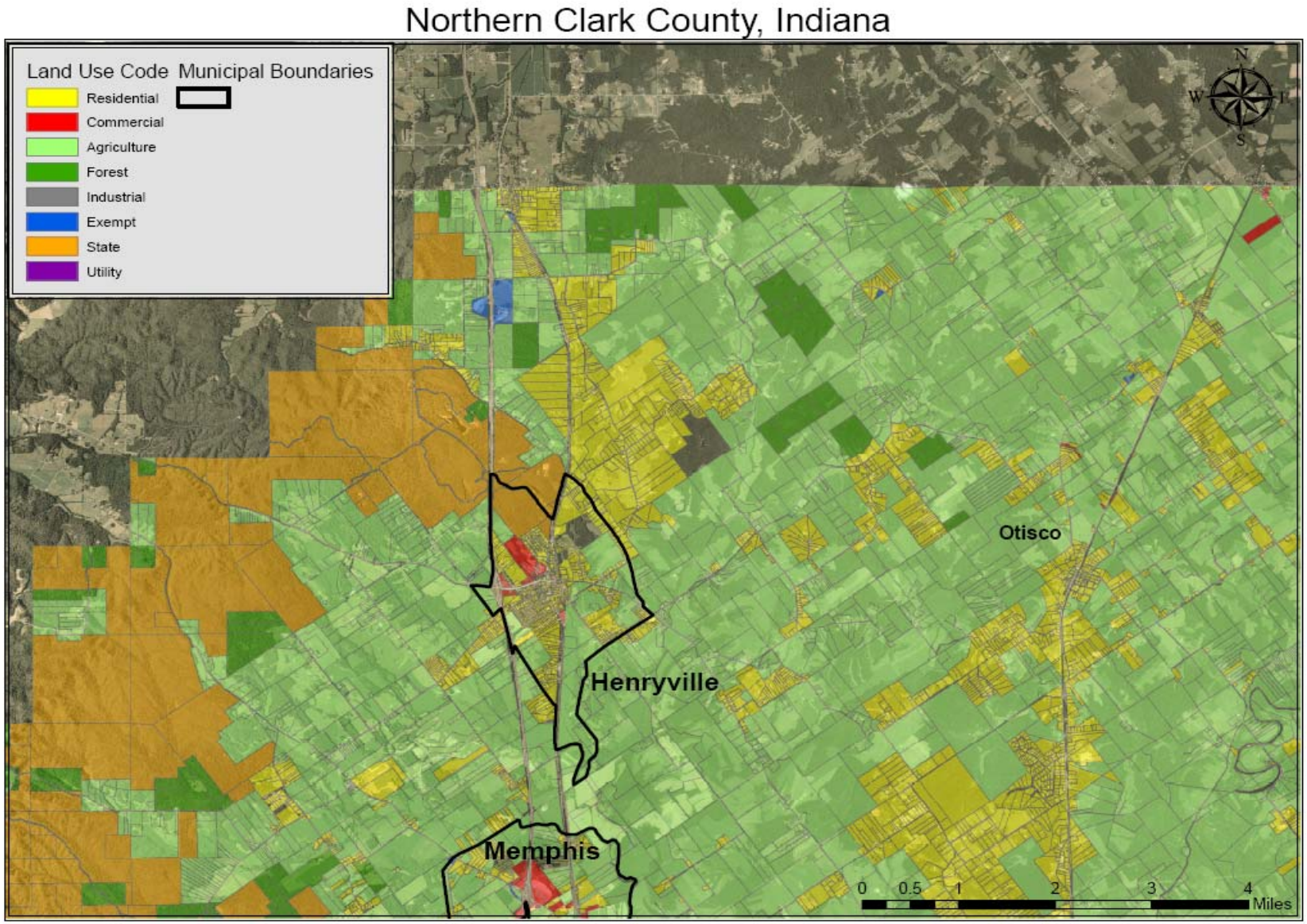
The foothills of the knobs are located in the western section of the northern and central areas of Clark County. The Clark State Forest, totaling 23, 979 acres, is north and west of Henryville. Other than the forested areas, much of the land is agricultural-based; however two large swaths of land coded as residential use are located (1) along SR 60 as the road travels west from Sellersburg to Borden in the western section of the county and along SR 111 between SR 60 and the Floyd County line, and (2) north of Henryville along US Hwy 31.

When we look at the residential development along SR 62 and SR 111 as it relates to the growth patterns around the town of Sellersburg, we find that there remains but a small section of farmland and open space between these areas. It could be easily surmised that with the growth patterns experienced in Clark County, this farmland may soon be earmarked for subdivisions. This area of the county is also affected by the retail and residential developments in neighboring Floyd County that is concentrated in a triangular area bounded by I-265, the Clark County line, and a ridge of the knobs. SR 111 runs through this particular area, from I-265 to the I-65 interchange in Sellersburg.

**Map 7:– Central Area of Clark County**



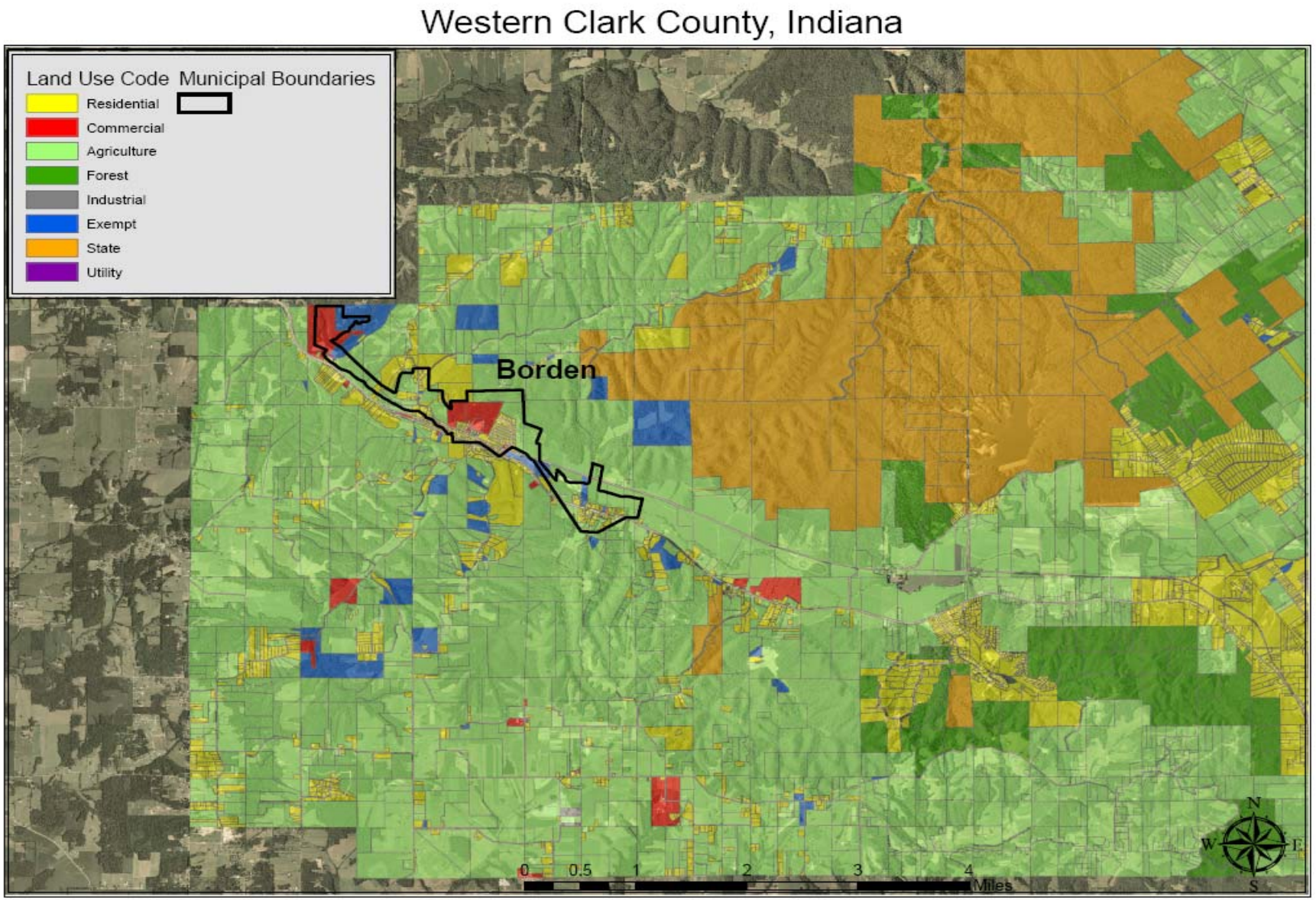
**Map 8:– Northern Area of Clark County**



*Western area*

The western portion of the county is dominated by forested hills. The main branch of the Muddy Fork Creek runs east-west, forging a narrow valley that has been used as a transportation route since the county was first settled. The valley is served by both SR 60 and a railroad line, and Borden is the principle incorporated area on the route. Due to the steep slope conditions, developed areas are sparse; however, it appears that residential tracts are being developed in some of the farmland in the southwestern corner of this area. This particular area is noted regionally and statewide for its agricultural businesses (both commercial and tourism) and pastoral beauty. Though attractive for single-family homeowners, this area should be protected from encroaching residential development and valued for not only its rich soils, but also from its contribution to the local economy.

**Map 9: Western Area of Clark County**



## ***VIII. Conclusion***

As Clark County continues to grow, the pressure to develop existing farmland for residential or commercial/industrial use will become greater. Existing farmland, with its open and green spaces, can often be converted for other uses at a lower cost to the developer than previously used properties; however, the costs of services for new county residents and county workplaces located outside of the central urban areas are placed on local government and the existing population, and the costs associated for providing services to these developments outweigh the increased property tax revenues generated by these newly developed sites.

Farmland in Clark County is continuing to be converted into suburban developments. This is occuring at high rates because the positive externalities of open space and the local agricultural economy are not truly captured in the marketplace. If they were, preservation of the most productive agricultural lands would naturally occur due to market forces. Programs such as Purchase of Development Rights and Transfer of Development Rights are the most effective at realizing the positive externalities of farmland. They are most succesful when preserving large contiguous areas of prime farmland, allowing for local agricultural economies to continue to thrive as opposed to being fragmented. The preserved acres would be most beneficial in the northeastern portion of the county where thus far little development has occurred. An already established farmland preservation program could help protect this regions natural farmland resources when the new east end bridge is constructed.

Currently, business and industry in Clark County is relatively healthy; the county's economic development strength is its location to major transportation systems, be it land, air, or water. This asset, coupled with the availability of the former munitions property cleaned and ready for industrial development, and the fact that Louisville Metro's developable tracts are becoming scarce, increases Clark County potential for business and industry attraction and retention. The county's weakness, however, is its exuberance for retail development. Local practices of extending retail areas have left behind blighted corridors of vacant and underutilized commercial lots. The land in Clark County that is set aside for parks and recreation is owned and maintained by either the state or incorporated areas such as Clarksville and Jeffersonville. The county currently does not have a county parks department nor a plan for preservation of open space.

Planning for future growth for Clark County is fragmented and at times disjointed. The county lacks a unified voice on land use issues; with several planning and zoning jurisdictions within the county, each with its own vision and goals for housing and commercial/industrial development, it is difficult to plan and steer growth for the good of all. The creation of a county-wide forum, that would include both county residents and community stakeholders, could be an intial step in addressing land use issues, focusing on residential, commercial, and industrial developments, and preservation of farmland and open-space. The lack of a full-time county planner is also an impediment to the county's ability to provide comprehensive and long-term land use planning.

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QT-P1A. Age and Sex for the Total Population: 1990
Data Set: 1990 Summary Tape File 3 (STF 3) - Sample data
P047. PLACE OF WORK---MSA/PMSA LEVEL - Universe: Workers 16 years and over
P050. TRAVEL TIME TO WORK - Universe: Workers 16 years and over
P049. MEANS OF TRANSPORTATION TO WORK - Universe: Workers 16 years and over
P045. PLACE OF WORK---STATE AND COUNTY LEVEL - Universe: Workers 16 years and over

Data Set: Census 2000 Summary File 1 (SF 1) 100-Percent Data
P12. Sex by Age [49] – Universe Total Population
Data Set: Census 2000 Summary File 3 (SF 3) - Sample Data
P26. PLACE OF WORK FOR WORKERS 16 YEARS AND OVER--STATE AND COUNTY LEVEL [5] - Universe: Workers 16 years and over
P30. MEANS OF TRANSPORTATION TO WORK FOR WORKERS 16 YEARS AND OVER [16] - Universe: Workers 16 years and over
P32. TRAVEL TIME TO WORK BY MEANS OF TRANSPORTATION TO WORK FOR WORKERS 16 YEARS AND OVER WHO DID NOT WORK AT HOME [13] - Universe: Workers 16 years and over who did not work at home

P28. PLACE OF WORK FOR WORKERS 16 YEARS AND OVER--MSA/PMSA LEVEL [25] - Universe: Workers 16 years and over

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